Final Five-Year Review Report

First Five-Year Review Report
for
Harris Corp. (Palm Bay Plant) Superfund Site
City of Palm Bay
Brevard County, Florida

December 2003

PREPARED BY:

L.S. Sims & Associates, Inc.
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PREPARED FOR:

U.S. Environmental Protection Agency
Region IV

Approved by: Winston A. Smith Date: 2/3/04

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List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirements
bls	Below Land Surface
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Cis-1,2-DCE	Cis-1,2-Dichloroethene
1,2-DCB	1,2-Dichlorobenzene
COC	Constituents of Concern
EB	Ethyl Benzene
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FDEP	United States Federal Department of Environmental Protection
FDER	Florida Department of Environmental Regulations
ft/day	Feet Per Day
gpd/ft	Gallons Per Day Per Foot
gpm	Gallons Per Minute
in/yr	Inches Per Year
MCL	Maximum Contaminant Level
MNA	Monitored Natural Attenuation
NCP	National Contingency Plan
NPL	National Priorities List
OGC	Office of General Council

OU1	Operable Unit One
OU2	Operable Unit Two
PBUC	Palm Bay Utilities Corporation
PCE	Perchloroethene (a.k.a. Tetrachloroethene)
RA	Remedial Action
RAO	Remedial Action Objectives
RD	Remedial Design
RDR	Remedial Design Review
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SJRWMD	St. Johns River Water Management District
SDWA	Safe Drinking Water Act
SRG	Site Remedial Goal
TCE	Trichloroethene
TDS	Total Dissolved Solids
UIC	Underground Injection Control
ug/L	Micrograms per Liter
VC	Vinyl Chloride
VOC	Volatile Organic Compounds

Executive Summary

The remedy for the Harris Corp. (Palm Bay Plant) Superfund site in Palm Bay, Florida includes institutional controls, groundwater extraction, groundwater treatment by aeration and monitored natural attenuation of groundwater. The trigger for this five-year review was the construction completion on July 1, 1998. In June 2003, a draft of this report was submitted to United States Environmental Protection Agency (EPA).

The assessment of this Five-Year Review found that the remedy was constructed in accordance with the requirements of the Records of Decision (ROD). Two Explanations of Significant Difference (ESD) were issued to change the constituents of concern and cleanup goals. The remedy is functioning as designed. The immediate threats have been addressed and the remedy is expected to be protective when groundwater cleanup goals are achieved.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Harris Corp. (Palm Bay Plant)		
EPA ID: FLD000602334		
Region: 4	**State:** FL	**City/County:** Palm Bay/Brevard
SITE STATUS		
NPL status: X Final ☐ Deleted ☐ Other (specify)		
Remediation status (choose all that apply): ☐ Under Construction X Operating ☐Complete		
Multiple OUs? X YES ☐ NO	**Construction completion date:** 7 / 1 / 1998	
Has site been put into reuse? X YES ☐ NO		
REVIEW STATUS		
Lead agency: X EPA ☐ State ☐ Tribe ☐ Other Federal Agency		
Author name: Lawrence S. Sims		
Author title: PRP Project Manager	**Author affiliation:** L.S. Sims & Associates, Inc.	
Review period: 7 / 1 / 1998 to 7 / 1 / 2003		
Date(s) of site inspection: 1 / 20 / 2003 & 3 / 12 / 2003		
Type of review: X Post-SARA ☐ Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead ☐ Regional Discretion)		
Review number: X 1 (first) ☐ 2 (second) ☐ 3 (third) ☐ Other (specify)		
Triggering action: ☐ Actual RA On-site Construction at OU #___ ☐ Actual RA Start at OU# NA X Construction Completion ☐ Previous Five-Year Review Report ☐ Other (specify)		
Triggering action date: 7 / 1 / 1998		
Due date *(five years after triggering action date)*: 7 / 1 / 2003		

Five-Year Review Summary Form, cont'd.

Issues:

Studies completed at the Harris site provide evidence that biodegradation of groundwater contaminants is occurring via the ambient microorganisms. Bioattenuation rates are expected to equal or exceed the attenuation rate of the pump and treat systems. In June 2000 the Operable Unit Two (OU2) groundwater extraction and treatment system was deactivated. On October 21, 2002 the Operable Unit One (OU1) groundwater extraction and treatment system was deactivated. Although initial estimates have been made using conservative assumptions, the site-specific bioattenuation rate at each operable unit needs to be determined.

Prior to the October 2002 deactivation, the treated groundwater from OU1 was piped to Intersil Corporation for reuse as cooling tower makeup water Following deactivation of the OU1 treatment system, Intersil decided to utilize reclaimed water from the City of Palm Bay wastewater treatment facility as their source of cooling tower makeup water. In addition, the injection wells utilized to dispose of treated groundwater from OU1 are now owned by Intersil Corporation. Although there is still an agreement in place whereby Harris maintains access to the injection wells, alternate disposal methods are being considered while the groundwater extraction and treatment system is inactive.

The OU1 site remedial goal (SRG) for ethyl benzene (EB) and 1,2-dichlorobenzene (1,2-DCB) are less than Federal and State ARARs (Applicable, or Relevant and Appropriate Requirements).

Five-Year Review Summary Form, cont'd.

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The OU1 site remedial goal (SRG) for ethyl benzene (EB) and 1,2-dichlorobenzene (1,2-DCB) are less than Federal and State ARARs (Applicable, or Relevant and Appropriate Requirements).

Recommendations and Follow-up Actions:

Groundwater monitoring should continue in accordance with the most recent monitoring schedule for the site. The monitoring data should be evaluated to determine a site-specific bioattenuation rate for each operable unit. The bioattenuation rate should be compared with the observed attenuation rate attributable to the pump and treat system. The long-term effectiveness of Monitored Natural Attenuation (MNA) in meeting site cleanup goals can then be demonstrated. Cleanup time estimates should be revised as necessary.

A Feasibility Study of treated effluent disposal alternatives are being considered at OU1.

For OU1, the SRG for ethyl benzene and 1,2-DCB are less than the most stringent federal or state standards. To be consistent with current ARARs, the SRG for ethyl benzene should be increased from 5 µg/L to 30 µg/L. The SRG for 1,2-DCB should be increased from 10 µg/L to 600 µg/L.

Protectiveness Statement(s):

All immediate threats at the site have been addressed and the remedy is expected to be protective of human health and the environment after the groundwater cleanup goals are achieved either through MNA alone or MNA and groundwater extraction/treatment.

Long-term Protectiveness:

Long-term protectiveness of the remedial action will be verified by obtaining additional groundwater samples to fully evaluate the attenuation of the observed contaminant plume. Current monitoring data indicate that the remedy is functioning as required to achieve groundwater cleanup goals.

Other Comments:

If it is determined that natural attenuation will be a suitable method of achieving groundwater cleanup goals, then an ESD changing the approved site remedy for both operable units may be warranted.

Harris Corp. (Palm Bay Plant) Superfund Site
Palm Bay, Florida

First Five-Year Review Report

I. Introduction

The purpose of the five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review Reports. In addition, Five-Year Review Reports identify issues found during the review, if any, and identify recommendations to address them.

The Agency is preparing this Five-Year Review Report pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The Agency interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

L.S. Sims & Associates, Inc. on behalf of Harris Corporation and The EPA, Region 4, conducted the Five-Year Review of the remedy implemented at the Harris Corp. (Palm Bay Plant) Superfund Site in Palm Bay, Florida. This review was conducted by the PRP Project Manager of Record (Lawrence S. Sims, P.G.) from January 2003 through March 2003. This report documents the results of the review.

This is the first Five-Year Review for the Harris Corp. (Palm Bay Plant) Site. The triggering action for this statutory review is the Construction Completion date of July 1, 1998. The Five-Year Review is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure.

II. Site Chronology

Table 1: Chronology of Site Events	
Event	**Date**
Initial discovery of problem or contamination	9/1/1980
Pre-NPL responses Harris/FDEP Consent Order Harris/FDEP Consent Order	 1983 1986
NPL listing	7/22/1987
Administrative Order on Consent	OU1 - 1/23/1992
Consent Decree	OU1 - 10/25/1991; OU2 - 1/27/1997
Remedial Investigation/Feasibility Study complete	OU1 - 6/28/1990; OU2 - 1/23/1992
ROD signature	OU1 - 6/28/1990; OU2 - 2/15/1995
ROD Amendments or ESDs	OU1 - 12/1/1992
ROD Amendments or ESDs	OU2 - 12/8/1995
Remedial design start	OU1 - 10/25/1991; OU2 - 11/20/1996
Remedial design complete	OU1 - 5/30/1996; OU2 - 5/21/1997
PRP RA Start Dates	OU1 - 6/28/1990; OU2 - 5/21/1997
PRP RA Completion Dates	OU1 - 7/12/1996; OU2 - 7/1/1998
Construction completion date	7/1/1998
Previous five-year reviews	None

III. Background

Site Location and Description

The Harris Palm Bay Plant is located in eastern Central Florida approximately 3 miles from the Atlantic Ocean (Figure 1). The Superfund site encompasses approximately 345 acres along Palm Bay Road, within the City of Palm Bay, Brevard County, Florida. The site is within the drainage basin of Turkey Creek and its tributaries that lie to the southwest, south, and southeast (Figure 2).

Groundwater beneath the site has been contaminated due to releases of volatile organic compounds (VOCs). In addition, VOCs have been detected in wells on the Palm Bay Utilities Corporation site (PBUC) located adjacent to the southern boundary of the Harris Corporation facility. PBUC provides potable water supply, sewage treatment and disposal for residents of Palm Bay.

The Harris site is surrounded to the east, west and north primarily by commercial and other industrial-zoned properties, which in turn are bounded by residential properties. A municipal park (Knecht Park) lies east of the site.

Hydrogeology

The hydrogeologic conditions in the area have been determined through numerous test borings, water samples, geophysical surveys, and aquifer performance tests. Three hydrogeologic layers are present within the Surficial Aquifer System underlying the site. The upper layer is comprised of unconsolidated sediments forming an unconfined, water-table aquifer. The upper layer is separated from a lower leaky artesian layer by an aquitard. Underlying the Surficial Aquifer is a clay-rich, relatively impermeable section of sediments forming the Hawthorn Group. The Hawthorn Group serves as a regional confining unit overlying the Artesian Floridan Aquifer.

The PBUC public supply wells are generally completed in the lower layer of the Surficial Aquifer between depths of 50 to 80 feet below land surface (bls). Harris maintains a monitor well network that provides groundwater information from three monitor zones across the site. A series of wells are completed to depths of 15 to 20 feet bls and provide information on water quality and groundwater flow direction in the uppermost portion of the unconfined aquifer. A second series of monitor wells has been installed at the base of the unconfined, upper layer of the aquifer. These intermediate depth wells are generally 30 to 40 feet deep and are completed in a shell bed that is prevalent at this depth across the site. A third series of wells is used to monitor the lower, leaky artesian layer of the Surficial Aquifer. These wells are generally 80 feet deep and are completed into the productive shell beds in the lower portion of the aquifer.

Prior to development of the Palm Bay well field in the 1950's, regional groundwater movement in the Surficial Aquifer was to the east toward the Indian River Lagoon. Shallow groundwater also discharged locally to drainage ditches and to Turkey Creek and its tributaries. After development of the well field, groundwater flow direction in the Surficial Aquifer shifted to the south. Water supply withdrawals from the lower producing zone in the Surficial Aquifer create a vertical gradient between the upper and lower layer. The vertical gradient results in a strong vertical component of groundwater flow within the well field's cone of depression.

Based on aquifer tests of the PBUC production wells, a representative transmissivity value of 12,000 gallons per day per foot (gpd/ft) and a storage coefficient of 0.0002 was calculated for the lower layer of Surficial Aquifer. A leakance value of 0.0014/day was calculated for the overlying aquitard. Slug tests conducted on monitor wells installed in the upper layer of the Surficial Aquifer yielded hydraulic conductivities raging from 0.67 to 1.7 feet per day (ft/day) for the 15-foot zone and 7.8 to 39 ft/day for the 40-foot zone.

Precipitation is the primary source of recharge to the Surficial Aquifer. The average annual precipitation for the area is 48 inches. Of this amount, it is estimated that 10 inches per year (in/yr) is surface runoff and 38 in/yr is infiltration. Net infiltration to the Surficial Aquifer is less due to evapotranspiration losses.

Principal water losses (sinks) from the Surficial Aquifer are groundwater withdrawals (pumpage) and discharge to surface waters. Prior to development of the PBUC well field, the primary surface water discharge points for the Surficial Aquifer were the Indian River Lagoon, Turkey Creek and its tributaries. After development of the area, the primary groundwater losses are from the PBUC wells. In most areas within the well field cone of depression, surface water is a source of recharge to the groundwater system.

Site History

Radiation Corporation, an electronics firm supporting the aerospace industry, operated at the site in the 1950's and 1960's. Harris Corporation purchased Radiation Corporation and has been operating in Palm Bay since 1967. All expansion from the original facilities has been onto undeveloped property, with the exception of the former Building 100 area. Two previous manufacturing firms (Sorban and Mohawk Data Services) operated at the former Building 100 area and used the site for painting operations, a chromium plating operation, a machine shop, and drum storage area.

In 1980, the EPA sampled some of the public water supply wells that lie south of the Harris facility as part of a nationwide survey of groundwater quality. In March 1982, the EPA reported to the Florida Department of Environmental Regulation (FDER) that numerous VOCs were detected in 6 of the water supply wells. Harris confirmed the presence of VOCs in monitor wells on its property in 1982. Harris entered into a Consent Order with FDER (OGC Case No. 82-

0582), in December 1983, with amendments in January 1984 and October 1984. Harris agreed to conduct a groundwater investigation to determine the extent of chemical impacts and to develop and implement a groundwater restoration program.

The Harris site was proposed for the National Priorities List (NPL) on April 10, 1985, and became a final NPL site July 22, 1987. EPA issued a general notice letter to Harris Corporation on April 6, 1989, notifying Harris of its potential liability under the CERCLA of 1980. This notice letter was issued pursuant to Section 104 and other provisions of CERCLA as amended by Superfund Amendments and Reauthorization Act (SARA). In this notice letter, EPA recognized the remedial efforts taken by Harris Corporation at the site in compliance with the Consent Order executed between Harris and the State of Florida.

The EPA decided to address the site as two management units (Operable Units). OU1 includes groundwater at the Harris Government Communications Systems Division (formerly Electronic Systems Sector) facility on the south side of Palm Bay Road, including the former Building 100 area. OU2 includes groundwater at the former Harris Semiconductor Sector facility north of Palm Bay Road. Intersil Corporation acquired the semiconductor operations from Harris and currently occupies the site. Each Operable Unit has a separate groundwater recovery and treatment system. A site plan showing the location of each operable unit is included in Figure 3.

OU1

In accordance with the 1983 Consent Agreement with FDER, Harris Corporation completed site characterization and in 1985, implemented a remedy for groundwater impacted by VOCs. The selected remedy consisted of groundwater recovery wells and water treatment using an air-stripping tower (pump and treat system).

After being placed on the NPL in 1987, Harris completed an evaluation of the existing site characterization data and a confirmation-sampling program. After evaluating the site characterization data and confirmation sampling results, EPA issued a ROD for OU1 in 1990. The ROD specified 13 organic compounds and 5 inorganic compounds as constituents of concern (COC) and required Harris to evaluate the effectiveness of the existing pump and treat remedy (Remedial Design Review-RDR).

An ESD was issued by the EPA in December 1992, adding 2 organic compounds as COC and revising some of the SRG. Harris completed the RDR in 1993 and confirmed that the existing pump and treat remedy was appropriate and effective for the site. Annual performance Reviews have been prepared and submitted to EPA beginning with the 1994 calendar year. The EPA issued another ESD in May 1995 removing 7 compounds as constituents of concern at OU1. Monitoring and remediation requirements for these constituents were removed based on information provided in the RDR and the 1995 Annual System Performance Review. EPA issued a Certification of Construction Completion in 1998.

OU2

In response to the discovery of VOCs in the Palm Bay public supply wells, initial investigations were undertaken at OU2 in 1981 and 1982. The focus of these investigations was to evaluate if the acid-neutralization ponds at the site were contributing sources of the VOCs detected in groundwater. Sediment samples were collected from the neutralization ponds and the retention pond at the OU2 site. Based on sediment sample analytical test results these ponds were not identified as source areas.

In 1985 a leaking underground solvent line was discovered during the course of construction activities. Investigations of the extent of impact to soil and groundwater were immediately undertaken. It was discovered that an area of

the "hardpan" or silt layer present at a depth of approximately 4 to 6 feet below land surface contained solvents from the release. VOCs were also discovered in groundwater samples collected at the site.

In 1987, with FDER's oversight, Harris completed a Contamination Assessment of the OU2 site. VOCs were identified in shallow (15 feet bls) groundwater samples from areas south and east of the retention pond. VOCs were also detected in shallow samples collected near the hazardous waste storage area (Building 55). In 1988, a Feasibility Study and a Remedial Action Plan were prepared for remediation of groundwater at the site. Harris entered into a Consent Agreement with the FDER in March 1990. A pump and treat remedy was approved and construction was completed by October 1990 when the system was placed into operation.

In January 1992, Harris entered into an Administrative Order on Consent with EPA to conduct a Remedial Investigation/Feasibility Study (RI/FS) Review and Modification. These studies were undertaken to confirm the nature/extent of chemical impacts associated with OU2 and to evaluate the effectiveness of the existing pump and treat remedy. After completion of these studies and approval by EPA, a ROD was issued in February 1995.

The EPA issued an ESD in December 1995. The ESD removed 2 of the organic compounds as constituents of concern at the site. The ESD also removed manganese as a constituent requiring groundwater treatment and limited monitoring for this constituent to one well.

Harris entered into a Consent Decree (CD) with EPA in November 1996 to complete a Remedial Design (RD) and Remedial Actions (RA) at OU2. Harris completed the RD/RA and submitted a Remedial Action Report to EPA in September 1997. EPA issued a Certification of Construction Completion in 1998. Annual Performance Reviews have been prepared and submitted to EPA beginning with the 1994 calendar year.

Basis for Taking Action

OU1

EPA prepared a risk (endangerment) assessment based on the soil, sediment and groundwater sampling data. This risk assessment identified drinking untreated groundwater at OU1 as an unacceptable human health risk. The COC at OU1 were selected based on samples collected from monitoring wells and PBUC water supply wells. The COC are the following 9 VOCs: tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), methylene chloride (MC), trichloroethene (TCE), vinyl chloride (VC), trichlorobenzene, 1,2-DCB, cis-1,2-dichloroethene (cis-1,2-DCE) and ethyl benzene (EB). In addition, metals (chromium, lead, and copper) as well as fluoride were reported as present in the groundwater associated with OU1.

OU2

Based on the human health and ecological risk assessment conducted for OU2, EPA determined that the groundwater contamination has the potential to cause adverse health effects and/or an unacceptable increased risk of cancer. EPA also concluded that soil, sediment, and surface water at both the GCSD and Intersil sites do not contain contaminants at the concentrations that would cause unacceptable risks to human health or the environment. TCE, PCE, cis-1,2-DCE, and VC have been identified as COC for the site.

IV. Remedial Actions

Remedy Selection

OU1

EPA considered 6 alternatives for the remediation of the groundwater associated with OU1. Of the alternatives evaluated, EPA selected modification of the existing groundwater extraction and treatment system as the preferred alternative. This remedy consists of (1) continued operation of the existing extraction and treatment system, (2) a design analysis for plume containment and treatment, (3) modification of the system based on results of the design analysis, (4) continued monitoring of the cleanup and (5) a review of the system and cleanup progress by EPA and FDEP after a period of five years.

OU2

As part of the Remedial Investigation/Feasibility Study (RI/FS) conducted under the guidance of EPA, a Feasibility Study Review and Modification evaluation was completed in 1994. The Feasibility Study initially developed 7 alternatives for screening based on short and long-term aspects of effectiveness, implementability and relative cost. Of these alternatives, EPA selected continued operation of the existing groundwater remediation system with the elimination of 2 recovery wells. EPA also required that another monitoring well be placed in the southwest portion of the site in the intermediate monitoring zone to monitor a small portion of contaminated groundwater that potentially would not be captured by the extraction wells. This area of contaminated groundwater is expected to undergo natural attenuation and has relatively low levels of contaminants.

Remedy Implementation

OU1

There are 14 recovery wells in operation at OU1. The recovery wells are grouped together in several areas of the OU1 site. Discharge piping from each group of wells is manifolded together so that samples can be collected from the individual wells, and from each well group, to evaluate performance. For convenience, the groups of wells have been given names based on their location and the site history. The Control Wells (GS-43S, GS-43D, GS-50S and GS-50D), the Parking Lot Wells (GS-127D and GS-131S), the Barrier Wells (GS-123D, GS-124D and GS-125D), the Well Point Group (GS-18S and GS-44S), and the former Building 100 Area Wells (GS-52S, GS-53S and GS-54S).

Control Well Group

Recovery Wells GS-37S, GS-37D, GS-43S and GS-43D began operation in September 1985. These wells were located to capture impacted groundwater near the former source area at the site (Building 6 area). Due to maintenance problems (i.e., recurring plugging and decreasing well yield), GS-37S and GS-37D were replaced by Recovery Wells, GS-50S and GS-50D in September 1990.

Parking Lot Well Group

Recovery Wells GS-131S (intermediate zone) and GS127D (deep zone) are located along the axis of the plume southeast of the area around Building 6. Recovery well 127D began operation in September 1985 to remediate groundwater in the deep zone south of the Building 6 area and upgradient of the Barrier Well Group. Monitor well GS-131S was converted to a Recovery Well and began operation in 1987. This well was activated to prevent migration and to capture VOCs in the intermediate zone south of the Control Wells.

Barrier Well Group

Recovery Wells GS-123D, GS-124D and GS-125D are located near the southern Harris property boundary. They were installed in 1985 to capture VOCs in the lower layer of the Surficial Aquifer and to prevent off-site VOC migration from Harris.

Well Point Group

Recovery Wells GS-18S and GS-44S are located in the intermediate monitoring zone on the eastern side of OU1. Harris initially installed a series of well points to contain groundwater in this area. In 1987, the well point system was replaced by utilizing two existing monitor wells (GS-18S and GS-1S) located in this area as recovery wells. In 1988, due to persistent biologic fouling and low yield, Recovery Well GS-1S was replaced with Recovery Well GS-44S.

Former Building 100 Area Well Group

Recovery Wells GS-52S, GS-53S and GS-54S began operation in April 1992 to capture and control the relatively low concentration plume of VOCs next to the former location of Building 100.

Treatment System Description (Prior to System Deactivation)

The extracted groundwater flows through a network of pipes to a treatment system, which removes VOCs using a packed column air-stripping tower. Contaminated groundwater is delivered from the extraction wells to a 20,000-gallon raw water holding tank. The raw water is pumped to the top of the 6-foot diameter tower and distributed over the packing media by a weir-through distributor. The water cascades over 20 feet with counter-current airflow supplied by a forced draft centrifugal blower. The stripping tower is mounted on top of a 20,000-gallon treated water holding tank. Tower effluent flows by gravity into the holding tank and is then pumped to a water reuse system on the Intersil site (formerly Harris Semiconductor Sector).

The treated groundwater is used for process water under a consumptive use permit issued by the St. Johns River Water Management District (SJRWMD). After use as process water, the treated groundwater is disposed of by deep well injection into the lower Floridan Aquifer. The underground injection system is located at OU2 and consists of 2 Class I injection wells and a dual zone satellite monitor well. The system operates under an underground injection control (UIC) permit monitored by FDEP.

Recovery Well Deactivation

In January 1996, following EPA approval, Recovery Well GS-54S was deactivated in the former Building 100 area after achieving SRG. In June 2000, the remaining 2 former Building 100 area Recovery Wells (GS-52S and GS-53S) were shut down after meeting the performance criteria specified in the ROD. Recovery Wells GS-131S was deactivated in February 2001 after meeting SRG.

Based on evaluations of the natural attenuation processes occurring at the site, decreased contaminant concentrations in monitor well samples and the relatively small amount of mass being removed from the groundwater at the OU1 site, EPA approved the temporary deactivation of the OU1 groundwater treatment system on April 2, 2002. On October 21, 2002, the OU1 system was placed on standby mode with continued monitoring of groundwater to collect data necessary to demonstrate the long-term effectiveness of natural attenuation.

OU2

Initial Response -Solvent Line Leak

In response to the discovery of the leaking solvent line (August 1985), approximately 238 cubic yards of soil was excavated and transported to Emelle, Alabama for disposal (Chemical Waste Management, Inc.). In November 1985, a groundwater extraction and treatment system was installed, pilot tested and then used to remove and treat approximately 8,000 gallons of impacted groundwater in the immediate vicinity of the damaged solvent line. The treatment system included a bag filter, an activated carbon adsorption system and heated air-stripping tower.

Groundwater Remediation

In response to the discovery of VOCs in groundwater samples collected in 1986 and 1987, Harris entered into a Consent Agreement with FDEP (March 1990) to implement a pump and treat remedy. Construction of the pump and treat system was completed by October 1990 when the system was placed into operation.

The OU2 remediation system originally consisted of 11 shallow (15-foot) recovery wells and one intermediate depth (40-foot) recovery well. The shallow wells are situated on the eastern and southern sides of the retention pond in the central portion of the OU2 site.

Recovery Well Deactivation

In June 1993, Recovery Well SC-TS23 was deactivated after achieving SRG. In July 1995, with the approval of EPA, three of the shallow wells on the eastern side of the retention pond (SC-TS4, SC-TS-6 and SC-TS9) were shut down because they had met the performance criteria specified in the ROD. Recovery Wells SC-TS13 and SC-TS16 were deactivated in December 1996 and Recovery

Well SC-TS32 was deactivated in June 1997 after meeting SRG.

Based on decreased contaminant concentrations in monitor well samples and the relatively small amount of mass being removed from the groundwater at the OU2 site, EPA approved the temporary deactivation of the OU2 groundwater treatment system on June 5, 2000. On June 13, 2000, the OU2 system was placed on standby mode with continued monitoring of the deactivated recovery wells and adjacent monitor wells.

Palm Bay Municipal Wells

In addition to the system operating on the Harris facility, there is a groundwater extraction and treatment system ongoing at the PBUC Facility. Currently, water from four production wells (Well #3, Well #5, Well #8 and Well #17) is pumped to an air stripper. The stripper effluent is mixed with water from other PBUC production wells before undergoing the standard water purification process prior to public consumption.

System Operation/Operation and Maintenance

OU1

During this review period, the OU1 treatment system influent flow rate was approximately 150 gallons per minute (gpm). The average total VOC concentration in the influent decreased from 200 µg/l in 1998 to 45 µg/L in October 2002, prior to system deactivation. System performance was evaluated by monthly sampling of the Harris Well Groups and treatment system influent/effluent. Monthly samples were also collected from four of the PBUC production wells and the PBUC air stripper influent/effluent. Groundwater monitoring was conducted quarterly. In 2000, the Harris Group Well sampling frequency was reduced to quarterly instead of monthly.

As part of routine maintenance, the system was shut down annually and

cleaned. The inside of the tanks were repainted as necessary. The recovery well pumps and flow meters were cleaned and the wells were redeveloped as necessary

In October 2002, the OU1 recovery wells were deactivated and the treatment system was placed on stand-by. The system components remain operable in case active groundwater recovery becomes necessary.

OU2

During this review period, the OU2 treatment system influent flow rate was approximately 10 gpm. The average total VOC concentration in the influent was approximately150 µg/L. System performance was evaluated by monthly sampling of the treatment system influent/effluent. Groundwater monitoring was conducted quarterly.

As part of routine maintenance, the recovery well pumps and flow meters were cleaned and the wells were redeveloped as necessary. The treatment system components were inspected weekly.

In June 2000, the OU2 recovery wells were deactivated and the treatment system was placed on stand-by. The system components remain operable in case active groundwater recovery becomes necessary.

V. Progress Since Last Five-Year Review

This was the first five-year review for the site.

VI. Five-Year Review Process

Administrative Components

The Harris Corp. (Palm Bay Plant) Five-Year Review was conducted by L.S. Sims & Associates, Inc. Mr. Lawrence S. Sims, the consultant of record, was the team leader. Interviews were conducted with Mr. Rick Nipper, Operations Division Manager for the City of Palm Bay and Mr. Tim VanDeveter at the City of Palm Bay water treatment facility. Site inspections were conducted at the PBUC water treatment plant on June 4, 2003. Site photographs taken during the site inspection are included in Appendix A.

Community Involvement

After finalization of the Five-year Review Report, a public notice will be placed in the local newspaper. The public notice will announce the completion of the five-year review process and state that a copy of the report can be viewed at the Palm Bay Public Library. Many of the issues brought up in this report will be addressed in an upcoming 2004 performance review report. Public meetings have been previously held prior to discuss the RODs for each operable unit.

Document Review

Appendix B contains a list of the documents used as sources of information during this review.

Data Review

During this review period, the most prevalent COC remaining above the SRG in OU1 and OU2 recovery well samples are PCE, TCE and breakdown products Cis-1,2-DCE and VC. In addition, 1,2-DCB was also consistently detected above the SRG in 3 OU1 recovery well samples. The only COC detected above the SRG in the PBUC wells is VC. Current (12/03) VOC distribution maps are included in Figures 4, 5, and 6. VOC concentration graphs for the OU1, OU2 recovery wells and PBUC wells are included in Appendix C. A tabular summary of VOC data for the OU1, OU2 and PBUC wells is included in Appendix D.

OU1

Well Point Group

The total VOC concentration in Recovery Well GS-18S peaked in 1989 at 174 µg/L. Since November 1995, the primary COC detected in groundwater samples are 1,2-DCB, TCE and VC. Between December 1999 and May 2001, all the COC were below SRG except VC. VC ranged from 5.7 µg/L to below detection. For the most recent sample (November 2002), concentrations of Cis-1,2-DCE and TCE were detected at anomalously high levels (97 and 23 µg/L respectively).

The primary COC detected in Recovery Well GS-44S samples are 1,2-DCB, TCE and VC. Since February 1995, TCE concentrations ranged from 236 µg/L to below detection. VC concentrations ranged from 110 µg/L to below detection. 1,2-DCB concentrations ranged from 29 µg/L to below detection. In the most recent sampling, all constituents were below detection.

Control Well Group

Since November 1995, the primary COC detected in Recovery Well GS-43S samples are PCE, TCE and VC. PCE concentrations ranged from 110 to 52 µg/L. TCE concentrations ranged from 180 to 64 µg/L. VC concentrations ranged from 41 to 5.7 µg/L. In the most recent sampling, all constituents were below detection. The only COC detected above the SRG in Recovery Well GS-43D samples is VC. VC concentrations ranged from 28 µg/L to below detection. The COC were below detection limits in the most recent sample.

The primary COC detected in Recovery Well GS-50S are PCE, TCE, Cis-1,2-DCE, VC, 1,2-DCB, 1,1-DCE and EB. PCE, TCE, Cis-1,2-DCE, and VC were detected at the highest concentrations. PCE concentrations ranged from 250 µg/L to below detection. TCE concentrations ranged from 580 to 2.8 µg/L. Cis-1,2-DCE concentrations ranged from 300 to 15 µg/L. VC concentrations ranged from 320 to 6 µg/L. In the most recent sampling, all constituents were below the SRG except VC reported at a concentration of 6 µg/L. Recovery Well GS-50S is located downgradient of the former source area at Building 6 and has historically had the highest VOC concentrations at OU1.

The primary COC detected in Recovery Well GS-50D are VC and 1,2-DCB. VC concentrations ranged from 360 µg/L to below detection. 1,2-DCB concentrations ranged from 630 µg/L to below detection. In the most recent sampling, all constituents were below the SRG except 1,2-DCB reported at an anomalously elevated concentration of 630 µg/L.

Parking Lot Well Group

Since November 1995, the only COC detected in Recovery Well GS-127D is VC. VC concentrations are relatively low at this location ranging from 49 µg/L to below detection. Beginning June 1999, the COC concentrations in Recovery

Well GS-131S have essentially been below the SRG. VC was reported in the August 2000 sample at a level of 1.4 µg/L. Between November 1995 and March 1999, relatively low levels of TCE and VC were detected. TCE concentrations ranged from 6.3 µg/L to below detection. VC concentrations ranged from 37 µg/L to below detection. In the most recent sampling, all constituents were below the SRG.

Barrier Well Group

Since November 1995, the only COC detected in Recovery Wells GS-123D, GS-124D, and GS-125D is VC. VC concentrations are relatively low in this area of OU1. A maximum VC concentration of 25 µg/L was reported in the November 1995 sample from GS-124D. For the most recent sampling, VC concentrations in GS-123D, GS-124D, and GS-125D were 8.9, 1.4 and 1.1 µg/L, respectively.

Former Building 100 Area Well Group

The COC have essentially been below the SRG in Recovery Well GS-52S since February 1995. PCE was detected above the SRG on one occasion (December 1997 – 6 µg/L). The primary COC detected in Recovery Well GS-53S samples are PCE and TCE. PCE concentrations ranged from 25 µg/L (in the most recent sampling) to below detection. TCE concentrations ranged from 6 µg/L to below detection. The COC have essentially been below the SRG in Recovery Well GS-54S since February 1995. TCE was detected slightly above the SRG in June and December 1997 at concentrations of 3.5 and 3.2 µg/L, respectively.

OU2

The COC have been below the SRG in Recovery Well SC-TS13 since January 1995.

The primary COC detected in Recovery Well SC-TS15 samples are TCE, Cis-1,2-DCE and VC. TCE concentrations ranged from 84 µg/L to below detection. Cis-1,2-DCE concentrations ranged from 100 µg/L to below detection. VC concentrations ranged from 55 µg/L to below detection. All the COC have been below the SRG in this well since August 2000.

The COC have essentially been below the SRG in Recovery Well SC-TS16 since January 1995. TCE was detected at 7 µg/L and VC was detected at 3 µg/L in the November 2002 sample.

The primary COC detected in Recovery Well SC-TS25 samples are PCE, TCE, Cis-1,2-DCE and VC. PCE concentrations ranged from 17 µg/L to below detection. TCE concentrations ranged from 71 µg/L to below detection. Cis-1,2-DCE concentrations ranged from 100 µg/L to below detection. VC concentrations ranged from 18 µg/L to below detection. All the COC have been below the SRG in this well since October 2001.

The primary COC detected in Recovery Well SC-TS29 samples are PCE, TCE, Cis-1,2-DCE and VC. PCE concentrations ranged from 8 µg/L to below detection. TCE concentrations ranged from 190 µg/L to below detection. Cis-1,2-DCE concentrations ranged from 79 µg/L to below detection. VC concentrations ranged from 16 µg/L to below detection. All the COC were below the SRG in the most recent sample except TCE (4 µg/L).

The primary COC detected in Recovery Well SC-TS30 samples are TCE, Cis-1,2-DCE and VC. TCE concentrations ranged from 140 µg/L to below detection. Cis-1,2-DCE concentrations ranged from 426 µg/L to below detection. VC concentrations ranged from 75 µg/L to below detection. All the COC have been below the SRG in this well since April 2001.

The primary COC detected in Recovery Well SC-TS31 samples are TCE, Cis-1,2-DCE and VC. TCE concentrations ranged from 120 to 2 µg/L. Cis-1,2-DCE concentrations ranged from 390 to 4 µg/L. VC concentrations ranged from 61 µg/L to below detection. None of the COC were above the SRG in the most recent sample.

In the intermediate zone Recovery Well SC-19S samples, the primary COC detected are PCE, TCE, Cis-1,2-DCE and VC. PCE concentrations ranged from 6.3 µg/L to below detection. TCE concentrations ranged from 280 µg/L to below detection. Cis-1,2-DCE concentrations ranged from 110 to 5 µg/L. VC concentrations ranged from 69 µg/L to below detection. Only VC was detected above the SRG in the most recent sample.

Palm Bay Municipal Wells

Harris Corporation, in agreement with the City of Palm Bay, dated ? 1985, developed a restoration program to improve groundwater quality through the installation of two air stripping towers to remove volatile organic compounds found in the ground water supply. A copy of this agreement is attached in Appendix E.

Four PBUC wells (PBUC-3, PBUC-5, PBUC-8 and PBUC-17) are sampled on a monthly basis. The primary COC detected above the State of Florida Drinking Water Standards in PBUC-3 samples is VC. VC concentrations have ranged

from a high of 28 µg/L, in August 1999, to below detection. VC levels ranged between 4.5 and 2.7 µg/L in 2002. 1,2-DCB was detected above the standard on one occasion (November 1999 - 28 µg/L).

The primary COC detected above the standard for drinking water in PBUC-5 samples are VC and 1,2-DCB. VC concentrations have ranged from a high of 2 µg/L to below detection. The VC levels have been below the standard since May 1997. 1,2-DCB concentrations have ranged from a high of 28 µg/L to below detection. The 1,2-DCB levels have been below the standard since June 1998.

The primary COC detected above the standard for drinking water in PBUC-8 samples are VC and 1,2-DCB. VC concentrations have ranged from a high of 6 µg/L to below detection. 1,2-DCB concentrations have ranged from a high of 14 µg/L to below detection. The 1,2-DCB levels have been below the standard since March 2001.

The COC concentrations in PBUC-17 samples have all been below the drinking water standards since January 1995.

Site Inspection

The Five-Year Review site inspection for the Harris Corp. (Palm Bay Plant) superfund site was held on June 4, 2003. Mr. Lawrence Sims and Ms. Nancy Melchiori, with L. S. Sims & Associates, met with Mr. Rick Nipper and Mr. Tim VanDeveter, with the City of Palm Bay, at the water treatment plant. Mr. Nipper and Mr. VanDeveter provided influent/effluent data (1999 - 2003) for the City of Palm Bay air stripping tower and VOC test results for Well #3, Well #5, Well #8 and Well #17. A photograph of the air-stripper is included in Appendix A.

Based on the effluent data, the air stripper is removing any VOC produced from the four affected production wells. The influent VOC concentrations have all been below drinking water standards since January 1999 except for vinyl chloride. Vinyl chloride exceeds the standard in the influent on a sporadic basis (21 of the last 53 samples). The maximum vinyl chloride concentration detected since January 1999 was 5.6 µg/L.

VOC levels from production wells #5 and #17 have been below the drinking water standards since January 1999 Vinyl chloride is the only VOC exceeding the drinking water standard in the other two affected wells (#3 and #8). Vinyl chloride exceeded the standard in 44 of the last 50 samples collected from well #3. A maximum concentration of 29 µg/L was recorded for the sample collected in October 1999. Concentrations have ranged from below detection to 5.9 µg/L over the past 17 months.

Vinyl chloride exceeded the drinking water standard less frequently (24 of the last 53 samples) in well #8. Concentrations have ranged from below detection to 5.6 µg/L since January 1999.

Mr. Jamey Watt, EPA Remedial Project Manager and Mr. Jim McGuire, Chief-Section D of the EPA South Remedial and Technical Support Branch conducted a site visit on November 19, 2003. During the visit the EPA staff interviewed Mr. Pat Tydor, P.E. and Mr. Costa Triantafyllidis with Harris Corporation. Mr. Lawrence Sims was also in attendance at the meeting. EPA staff also conducted a site inspection of the facility and were present during a portion of the annual sampling event conducted in the afternoon.

Interviews

Mr. Rick Nipper, P.E. – (321) 952-3410

Mr. Nipper is responsible for all utility operations for the City of Palm Bay. He provided a tour of the site and access to records. Mr. Nipper was interviewed by Mr.Sims and Ms. Melchiori on June 4, 2003. During the interview he indicated that chloride concentrations are increasing in the production wells adjacent to the treatment plant, and the city is expanding the well field westward.

Mr. Constantine Triantafyllidis – (321) 674-4564

Mr. Triantafyllidis is the Harris Project Engineer in charge of the activities pertaining to the superfund site. Mr. Triantafyllidis was interviewed by EPA on November 19, 2003. During the interview Mr. Triantafyllidis described the current monitoring program, the current status of the remedial system and steps necessary for system reactivation.

Mr. Pat Tydor, P.E. – (321) 724-3913

Mr. Tydor is the Director of Harris Corporation Shared Services Environmental Health & Safety. Mr. Tydor was interviewed by EPA on November 19, 2003. During the interview Mr. Tydor explained the details of the agreement between the City of Palm Bay and Harris for operation of the groundwater treatment system at the Palm Bay Water Treatment Plant.

Lawrence S. Sims – (321) 504-4046

Mr. Sims is the consultant of record for the Palm Bay Superfund site. Mr. Sims was interviewed by EPA on November 19, 2003. During the interview Mr. Sims explained the progress made in meeting site remedial goals and results of investigations regarding natural attenuation processes at the site.

Tim VanDeveter – (321) 952-3478

Mr. VanDeveter is the Water Plant Superintendent for the City of Palm Bay. He briefly explained the City's recordkeeping and sampling procedures. Mr. VanDeveter provided spreadsheet data summaries for the past five years of operation for the air stripper and four production wells. The City of Palm Bay utilized a PLC for data collection management and storage.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

According to the decision document for OU1 (1990 ROD), the remedy provides containment, removal and treatment of contaminants in the groundwater. The Remedial Action Objectives (RAO) are to provide both short- and long-term protection to potential human and environmental receptors. The remedy assures that the contaminated aquifer will be cleaned up to meet appropriate Maximum Contaminant Levels (MCL) under the Safe Drinking Water Act (SDWA).

According to the decision document for OU2 (1995 ROD), the RAOs are protection of human health and the environment by reducing levels of contaminants in groundwater to levels within Federal and State MCLs. Extraction and treatment of the groundwater contaminants is the proposed methodology for reducing the risk to human health to below 10^{-6} for carcinogens and a Hazard Index of below 1 for noncarcinogens.

Based on the performance monitoring data from OU1 and OU2, the remedies are functioning as intended in the decision documents. The remedies have provided containment and reduced the aerial extent of contaminants. The

remedies have also effectively reduced the concentrations of contaminants in the impacted areas. The treatment systems at OU1 and OU2 have provided complete removal of VOCs.

At OU1, concentrations of the COC were all below the SRG in the most recent sample (November 2002) from Recovery Well GS-50S except for VC. This recovery well is located in the most impacted area of the site. The VC concentrations have been reduced from 320 µg/L in 1995 to 6 µg/L in the most recent sample.

At OU2, concentrations of the COC have been below the SRG in Recovery Wells SC-TS30 and SC-TS31 since April 2001. These recovery wells are located in the most impacted area of the site south of the OU2 retention pond.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of remedy selection still valid?

The exposure assumptions, toxicity data and RAOs remain valid. The exposure assumptions include direct ingestion of groundwater; however, there is no direct exposure pathway for human consumption of the impacted groundwater. As shown on Table 2, the SRG for the site are less than Federal and State MCLs for some of the COC. In particular, EB and 1,2-DCB have SRG less than the Federal MCL, the State of Florida Drinking Water Standards and Target Cleanup Levels. To be consistent, the SRG for these constituents should be raised to the most stringent promulgated standard. For EB, this would be the State of Florida Secondary Drinking Water Standard of 30 µg/L. For 1,2-DCB, the Federal and State standards are 600 µg/L.

Table 2: Site Remedial Goals

(Note: all concentrations in µg/L)

Contaminants	Cleanup Goals in ROD	Current Federal MCL (40CFR 141)	State MCL (FAC 62-550)	State Cleanup Target Levels (FAC 62-777)
OU1				
vinyl chloride	1	2	1	1
trichloroethene	3	5	3	3
tetrachloroethene	3	5	3	3
1,1-dichloroethene	7	7	7	7
cis-1,2-dichlorethene	70	70	70	70
methylene chloride	5	5	5	5
1,2-dichorobenzene	10	600	600	600
ethyl benzene	15	700	700/30*	30
lead	15	15	15	15
chromium	50	100	100	100
copper	1000	1300	1000	1000
fluoride	2000	4000	4000/2000*	2000
OU2				
cis-1,2-dichloroethene	70	70	70	70
tetrachloroethene	3	5	3	3
trichloroethene	3	5	3	3
vinyl chloride	1	2	1	1
manganese	50	50	50	50

*Florida primary drinking water standard / Florida secondary drinking water standard.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No information has been identified that would call into question the protectiveness of the remedy.

Technical Assessment Summary

The performance data collected at OU1 and OU2 provide evidence that the approved remedies have been effective in reducing COC concentrations and the aerial extent of impacted groundwater. Some areas of each site have been remediated to below the SRG. Concentrations and aerial extent have also been reduced in the PBUC wells. Site evaluations conducted over the past 2 years provide evidence that biodegradation of the remaining COC is occurring at the site. Site conditions are favorable for continued biodegradation processes to further degrade the remaining COC. Samples collected in November 2002 contained *Dehalococcoides ethenogenes*, a microorganism known to utilize the remaining COC as a substrate resulting in complete dechlorination. Dissolved hydrogen measurements collected in December 2002 are generally greater than 3 nanoMoles per liter (nM) indicative of an active population of sulfate-reducing bacteria are associated with the dechlorination process. The laboratory test results for *Dehalococcoides ethenogenes* and dissolved hydrogen are included in Appendix F.

VIII. Issues

Studies completed at the Harris site provide evidence that biodegradation of groundwater contaminants is occurring via the ambient microorganisms. Bioattenuation rates are expected to equal or exceed the attenuation rate of the pump and treat systems. In June 2000, the OU2 groundwater extraction and treatment system was deactivated. On October 21, 2002, the OU1

groundwater extraction and treatment system was deactivated so that MNA could be evaluated as a viable remedy. Although initial MNA rates have been estimated using conservative assumptions, the site-specific bioattenuation rate at each operable unit needs to be determined.

The treated groundwater from OU1 had been piped to Intersil for reuse as cooling tower makeup water. Following system deactivation, Intersil decided to utilize reclaimed water from the City of Palm Bay wastewater treatment facility as their source of cooling tower makeup water. In addition, the injection wells utilized to dispose of treated groundwater from OU1 are now owned by Intersil Corporation. Although there is still an agreement in place whereby Harris maintains access to the injection wells, alternate disposal methods are being considered while the groundwater extraction and treatment system is inactive.

The OU1 SRG for EB and 1,2-DCB are less than Federal and State ARARs (Federal MCL, the State of Florida Drinking Water Standards and Target Cleanup Levels).

Table 3: Issues

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Continue Monitoring and Annual Reporting at OU1/OU2	N	N
Determine Bioattenuation Rates for OU1/OU2	N	N
Compare Bioattenuation Rates with Site Attenuation Rate	N	N
Estimate Cleanup Time via Bioattenuation OU1/OU2	N	N
Evaluate Alternative Treated Groundwater Disposal Options for OU1 GWTS	N	N
Revise SRG for OU1	N	N

IX. Recommendations and Follow-up Actions

Groundwater monitoring should continue. The monitoring data should be evaluated to determine a site-specific bioattenuation rate for each operable unit. The bioattenuation rate should be compared with the observed attenuation rate attributable to the pump and treat system. The long-term effectiveness of MNA in meeting site cleanup goals can then be demonstrated. Cleanup time estimates should be revised as necessary.

A Feasibility Study of treated effluent disposal alternatives should be completed at OU1.

For OU1, the SRG for EB and 1,2-DCB are less than the most stringent Federal or State Standards. To be consistent with current ARARs, the SRG for EB should be increased from 5 µg/L to 30 µg/L. The SRG for 1,2-DCB should be increased from 10 µg/L to 600 µg/L.

Table 4: Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Continue Monitoring and Annual Reporting at OU1/OU2		HARRIS	EPA		N	N
Determine Bioatten. Rates for OU1/OU2		HARRIS	EPA		N	N
Compare Bioatten. Rates with Site Atten. Rate		HARRIS	EPA		N	N
Estimate Cleanup Time via Bioatten. OU1/OU2		HARRIS	EPA		N	N
Evaluate Alternative Disposal Options for OU1 GWTS		HARRIS	EPA		N	N
Increase the SRG for ethyl benzene and 1,2-DCB for OU1.		EPA	EPA		N	N

X. Protectiveness Statements

OU1

The remedy at OU1 is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled

OU2

The remedy at OU2 is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled.

Harris Corp. (Palm Bay Plant) Superfund Site

The remedy at the Harris NPL site is protective of human health and the environment. Exposure pathways that could result in unacceptable risks are being controlled.

XI. NEXT REVIEW

The next Five-Year Review for the Harris Corp. (Palm Bay Plant) Superfund Site is due in 5 years or by July 2008.

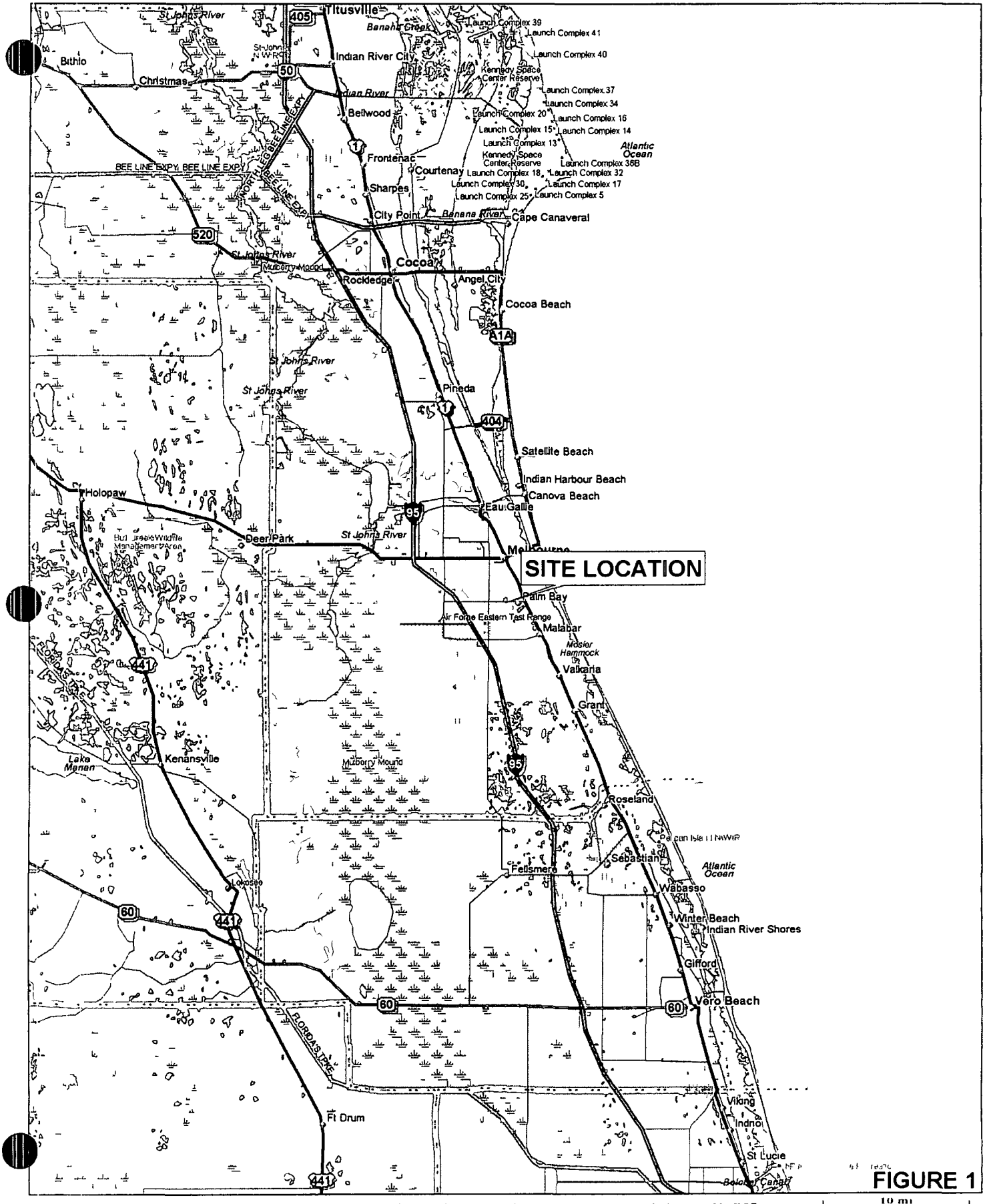


FIGURE 1

10 mi

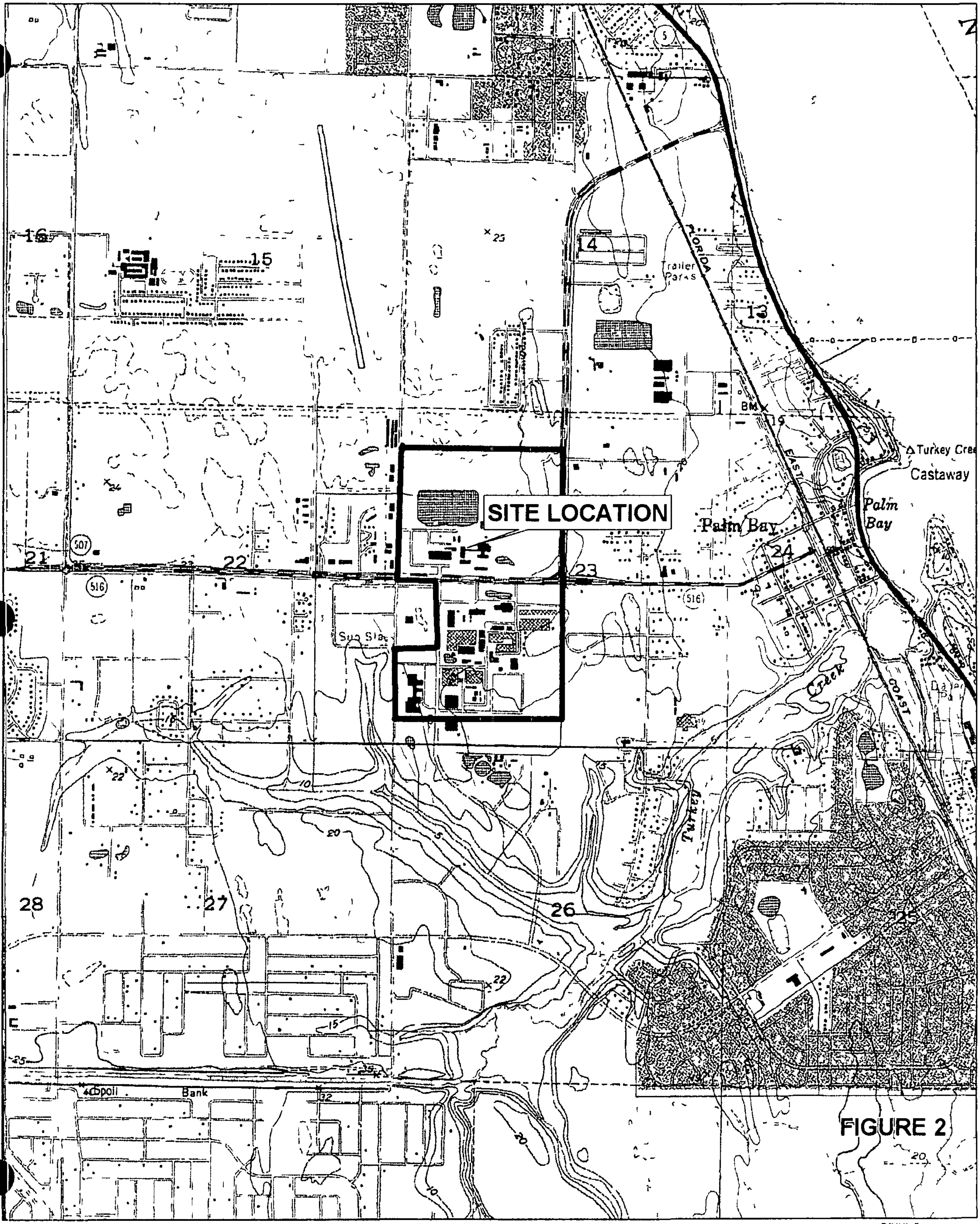
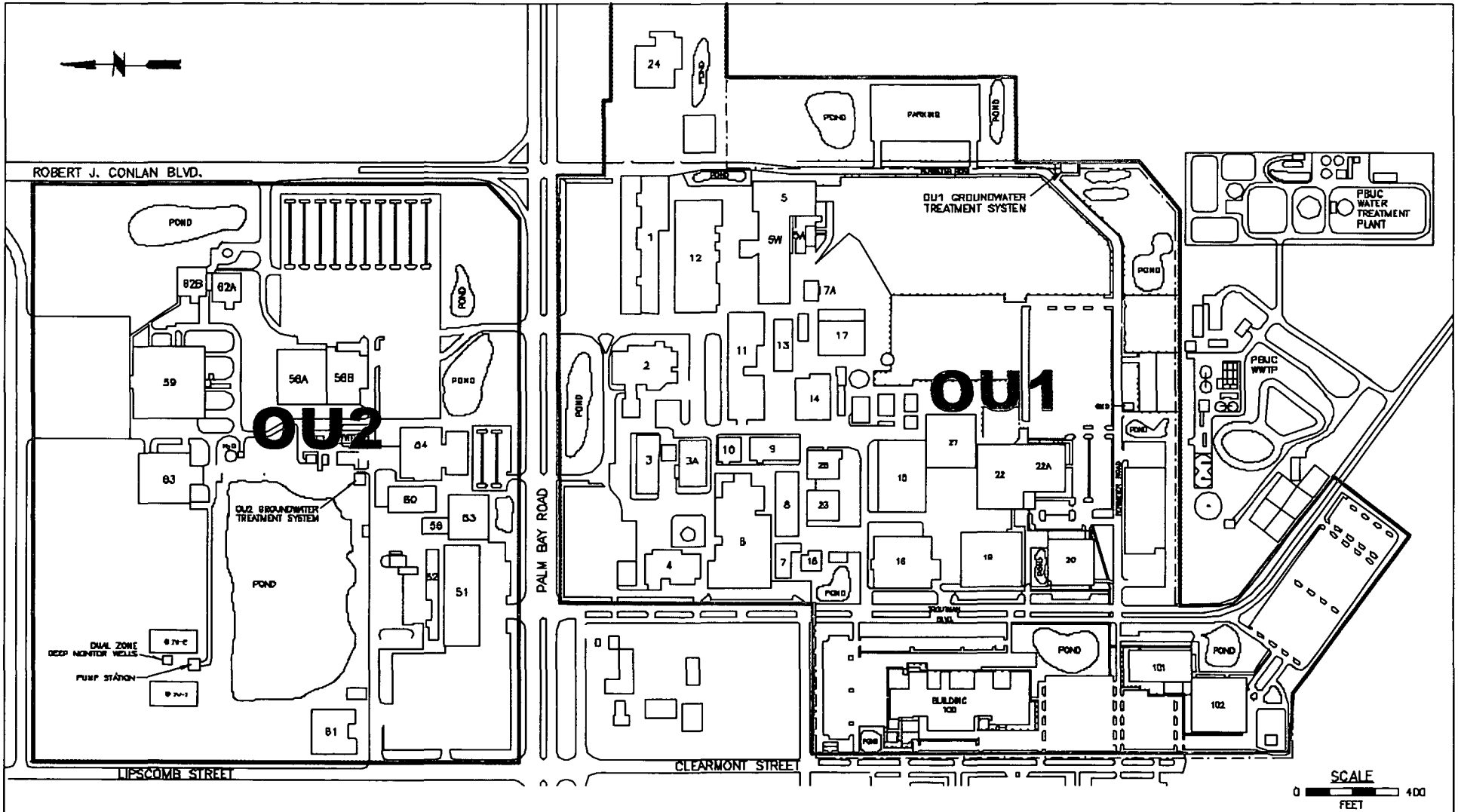


FIGURE 2

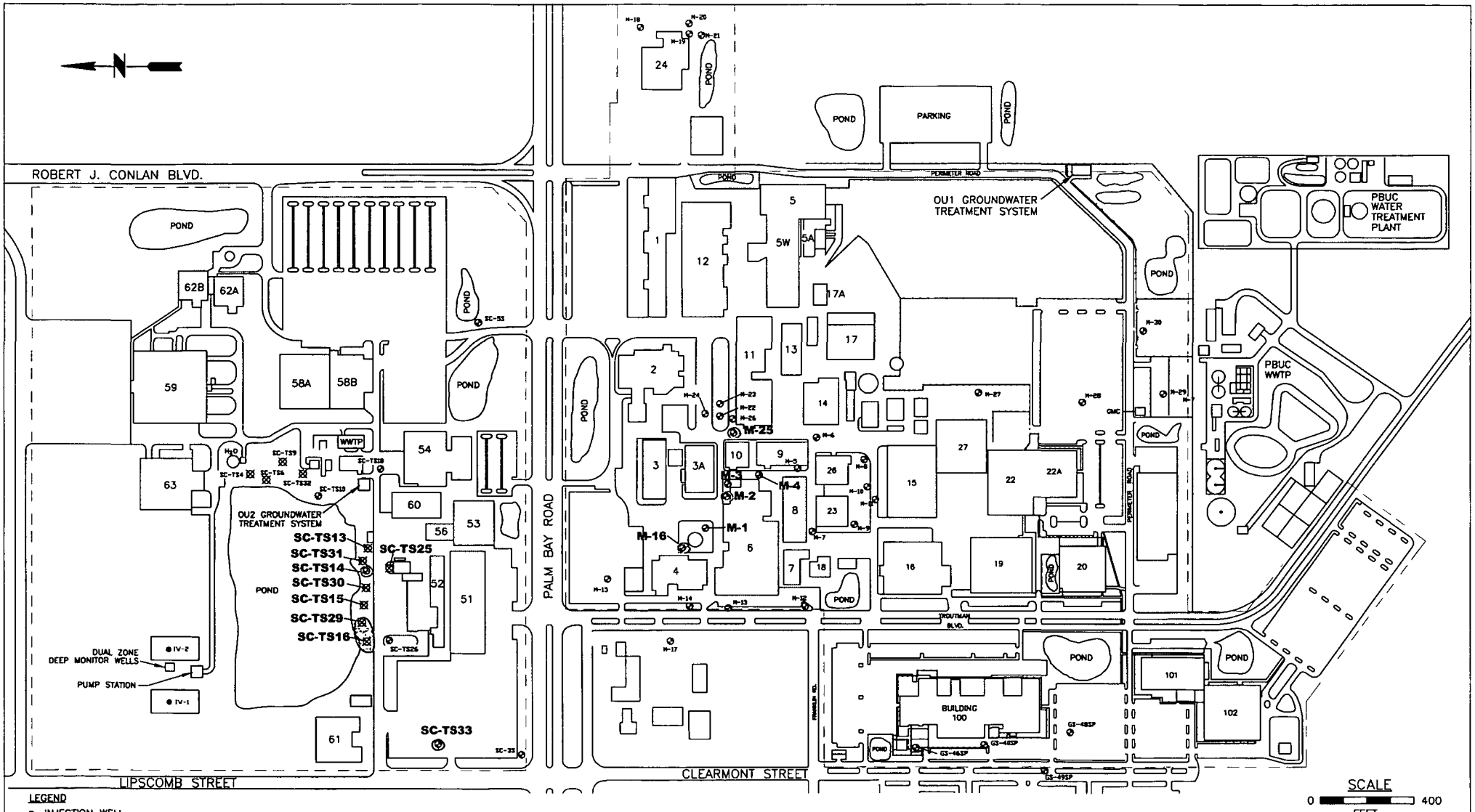
Copyright © 2000 DeLorme TopoTools Advanced Print Kit 1F Scale 1 25,000 Zoom Level 13-0 Datum NAD27

2000 ft



L.S.SIMS & ASSOCIATES
ENVIRONMENTAL CONSULTING

FIGURE 3
SITE PLAN
HARRIS CORPORATION
PALM BAY, FLORIDA



LEGEND

- INJECTION WELL
- MONITOR WELL LOCATION
- RECOVERY WELL LOCATION
- RECOVERY WELL THAT HAS BEEN DEACTIVATED
- ABANDONED MONITOR WELL (OCTOBER 2000)

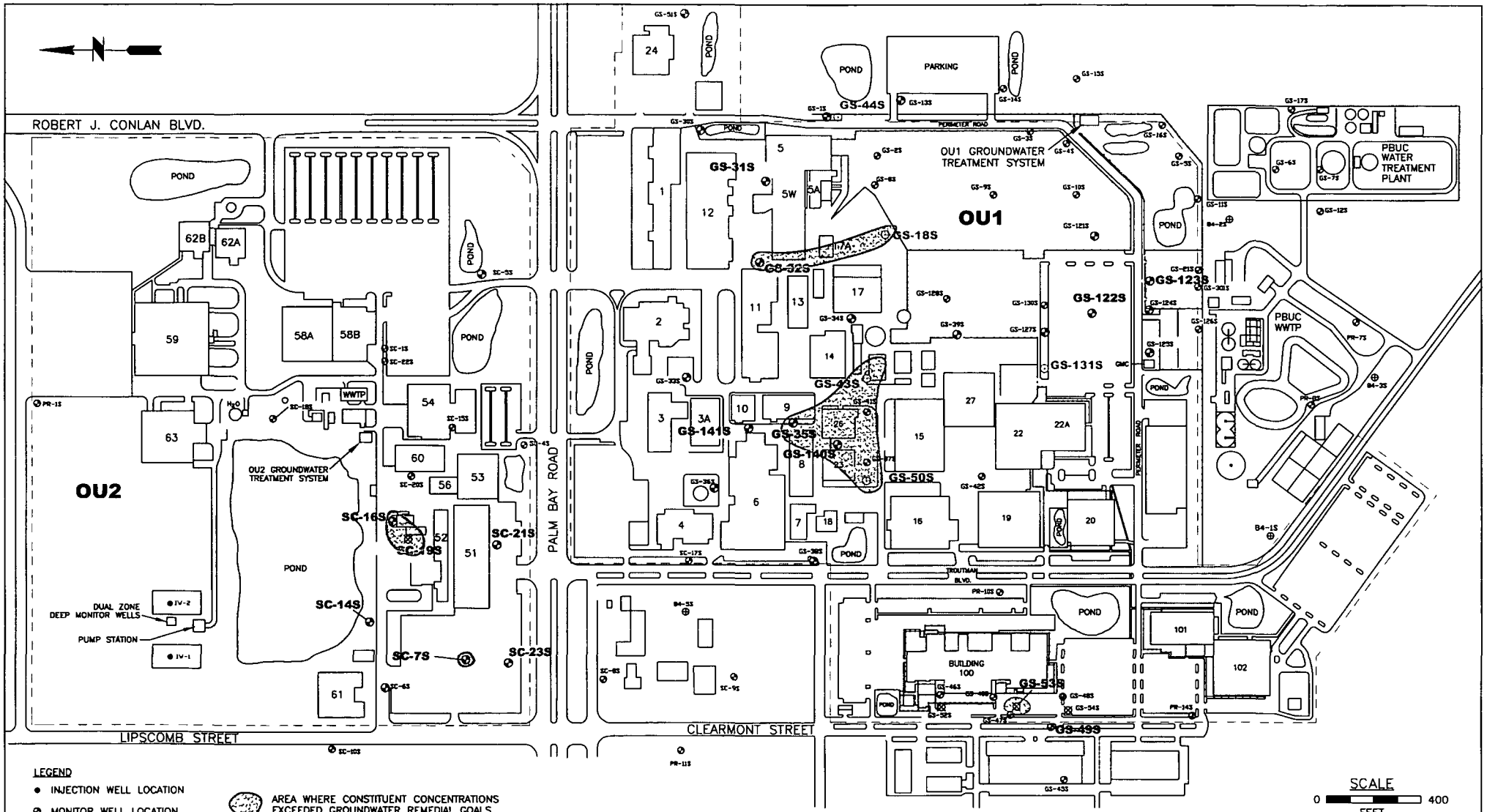
AREA WHERE CONSTITUENT CONCENTRATIONS EXCEEDED GROUNDWATER REMEDIAL GOALS (NOVEMBER 2002)

NOTE:
WELLS SHOWN IN **BOLD** WERE SAMPLED IN NOVEMBER 2002

2000HAR_FIG2.DWG 2/8/01

L.S.SIMS & ASSOCIATES
ENVIRONMENTAL CONSULTING

FIGURE 4
AREAS OF IMPACTED GROUNDWATER (NOVEMBER 2002)
SHALLOW MONITORING ZONE
HARRIS CORPORATION
PALM BAY, FLORIDA



LEGEND

- INJECTION WELL LOCATION
- MONITOR WELL LOCATION
- RECOVERY WELL LOCATION
- PBUC MONITOR WELL
- RECOVERY WELL THAT HAS BEEN DEACTIVATED
- ABANDONED MONITOR WELL (NOVEMBER 2000)

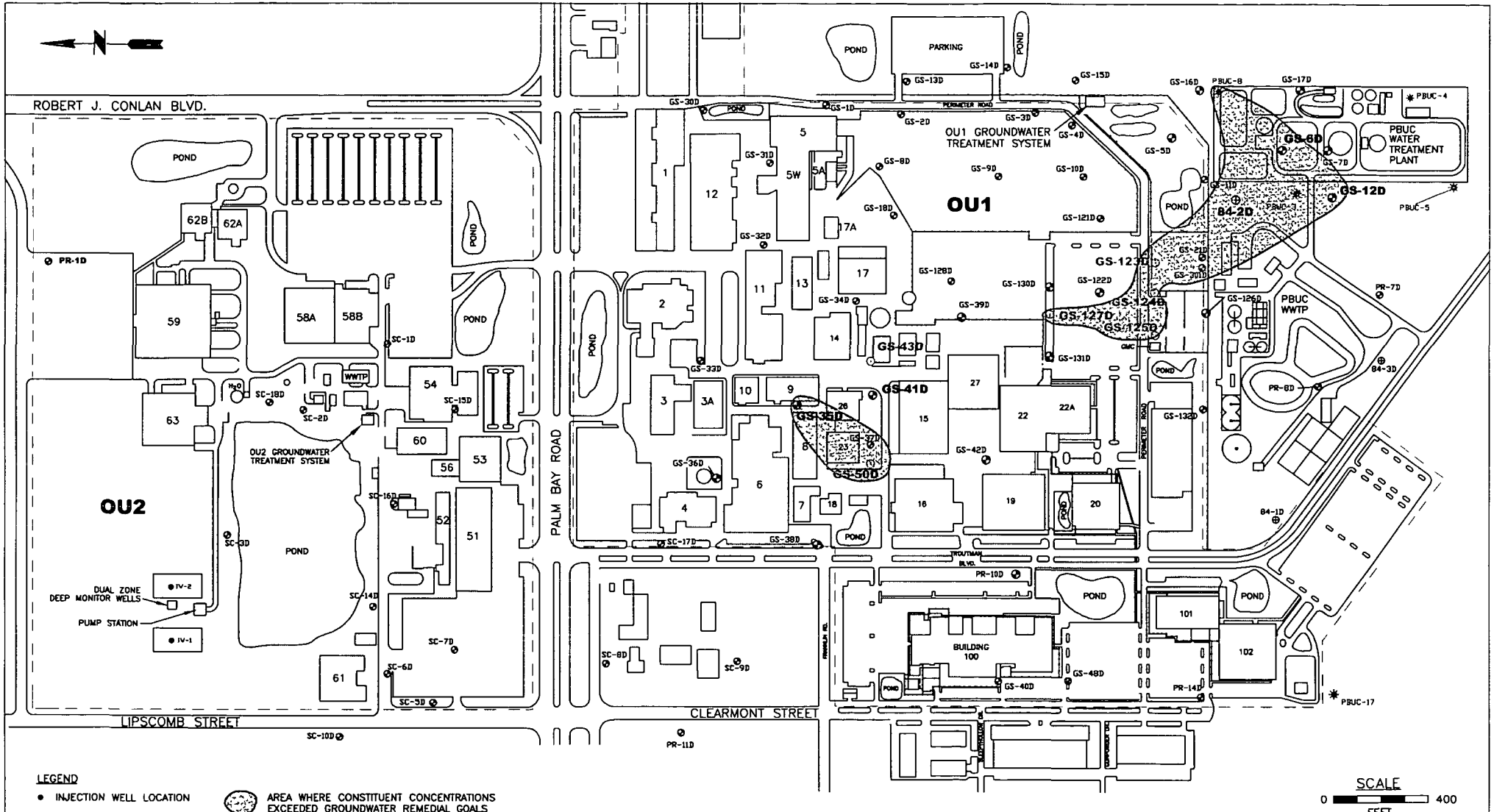
AREA WHERE CONSTITUENT CONCENTRATIONS EXCEEDED GROUNDWATER REMEDIAL GOALS (NOVEMBER 2002)

NOTE:
WELLS SHOWN IN **BOLD** WERE SAMPLED IN NOVEMBER 2002

2000HAR_FIG4.DWG 2/8/01

L.S.SIMS & ASSOCIATES
ENVIRONMENTAL CONSULTING

FIGURE 5
AREAS OF IMPACTED GROUNDWATER (NOVEMBER 2002)
INTERMEDIATE MONITORING ZONE
HARRIS CORPORATION
PALM BAY, FLORIDA



LEGEND

- INJECTION WELL LOCATION
- MONITOR WELL LOCATION
- RECOVERY WELL LOCATION
- PBUC MONITOR WELL
- PBUC PRODUCTION WELL

AREA WHERE CONSTITUENT CONCENTRATIONS EXCEEDED GROUNDWATER REMEDIAL GOALS (NOVEMBER 2002)

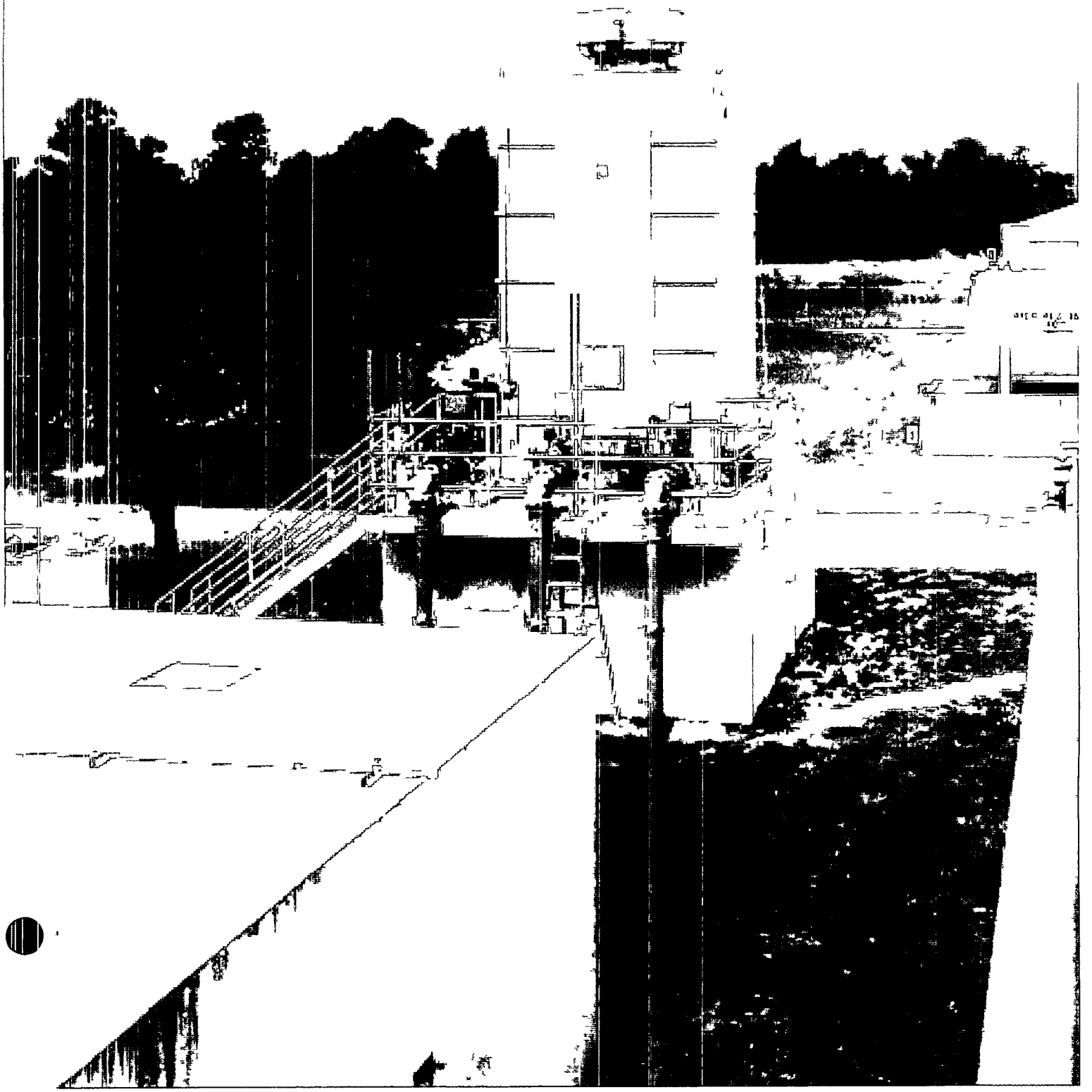
NOTE:
WELLS SHOWN IN **BOLD** WERE SAMPLED IN NOVEMBER 2002

2000HAR_FIG6.DWG 02/8/01

L.S.SIMS & ASSOCIATES
ENVIRONMENTAL CONSULTING

FIGURE 6
AREAS OF IMPACTED GROUNWATER (NOVEMBER 2002)
DEEP MONITORING ZONE
HARRIS CORPORATION
PALM BAY, FLORIDA

CITY OF PALM BAY
GWTS



HARRIS GWTS

APPENDIX B

First Five Year Review Report
for
Harris Corp. (Palm Bay Plant) Superfund Site
Town of Palm Bay
Brevard County, Florida

The following documents were used as sources of information for this Five- Year Review Report

Geraghty & Miller, Inc 1982 Availability of Water from the Port Malabar Wellfield, Brevard County, Florida General Development Corporation, Miami, Florida February 1982

Geraghty & Miller, Inc 1987 Harris Corporation Semiconductor, Complex Groundwater Assessment, November 1987

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Post, Buckley, Schuh & Jernigan, Inc 1983 Harris Corporation Task B-4 – Final Report of Hydrogeological Study Document 780-002 34 December 1983

Post, Buckley, Schuh & Jernigan, Inc 1984 Harris Corporation Task B-1 – Soil Sediment Investigation Document 780-002 31 March 1984

Roy F Watson, Inc 1993 Risk Assessment Report, Harris Corporation OU2, Palm Bay, Florida, Revision 0, Document Control No 4400-019-ADJC September 1993

L S Sims & Associates, Inc 1999 1998 Annual Systems Performance Review, Operable Units 1 & 2, Harris Corporation, Palm Bay, Florida March 1999

L S Sims & Associates, Inc 2000 1999 Annual Systems Performance Review, Operable Units 1 & 2, Harris Corporation, Palm Bay, Florida March 2000

L S Sims & Associates, Inc 2001 2000 Annual Systems Performance Review, Operable Units 1 & 2, Harris Corporation, Palm Bay, Florida March 2001

L S Sims & Associates, Inc 2002 2001 Annual Systems Performance Review, Operable Units 1 & 2, Harris Corporation, Palm Bay, Florida March 2002

U S Environmental Protection Agency (USEPA) 1990 EPA Superfund Record of Decision, Harris Corp (Palm Bay Plant), OU1, Palm Bay, Florida EPA R04-R90-065 June 1990

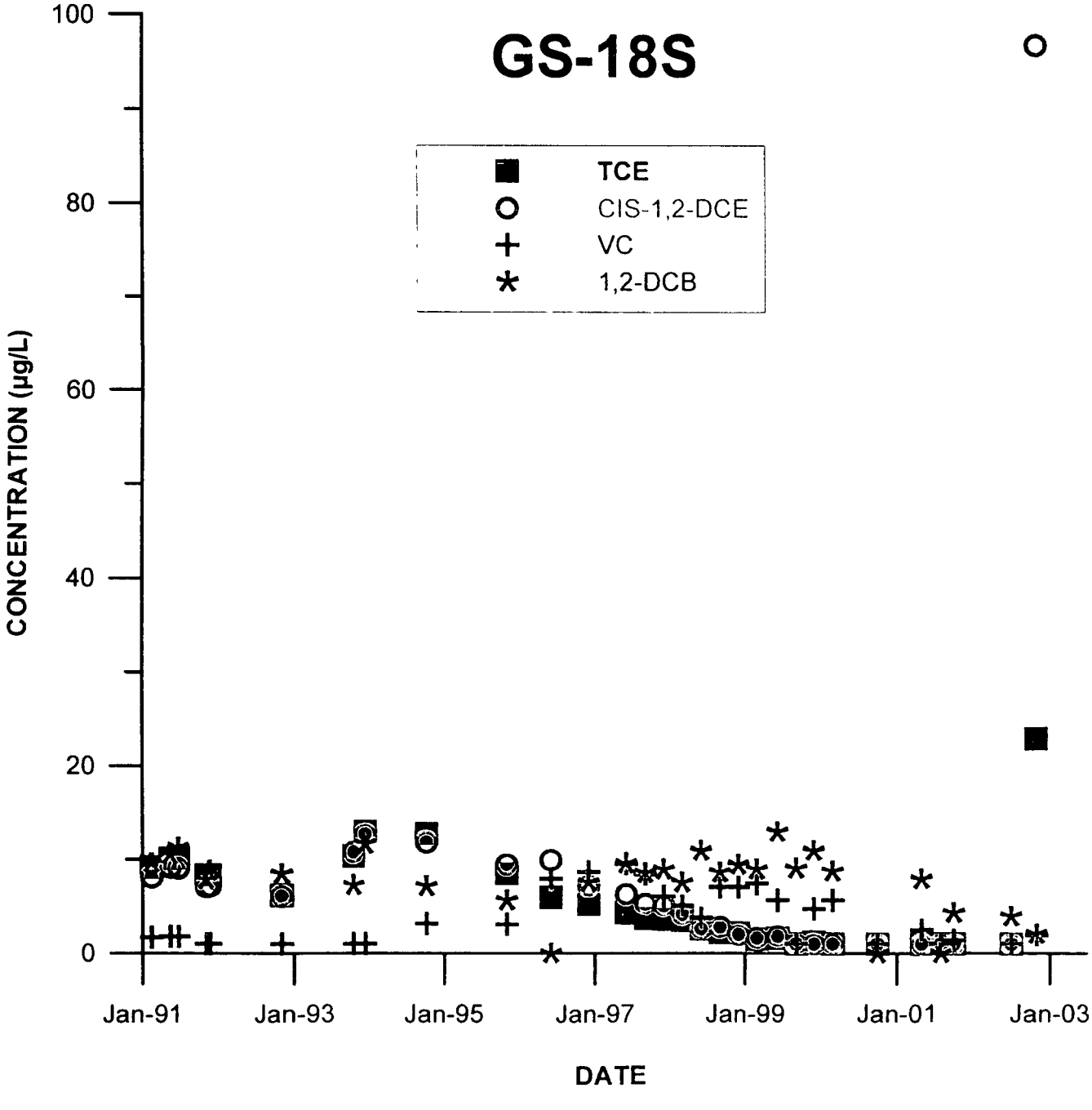
U S Environmental Protection Agency (USEPA) 1992 Explanation of Significant Differences, Harris Corporation/Palm Bay Facility Superfund Site E43-4F December 1992

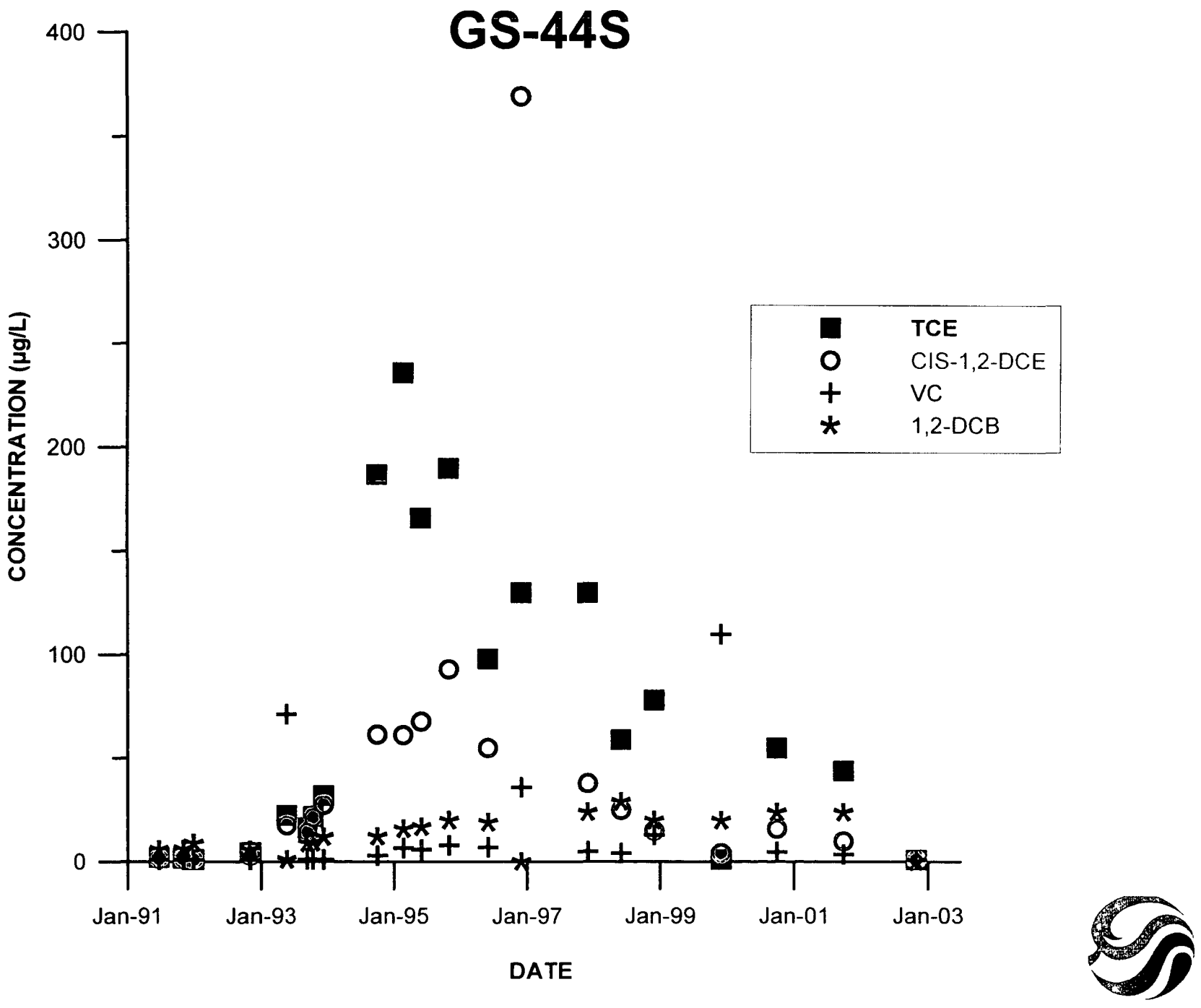
U S Environmental Protection Agency (USEPA) 1995a EPA Superfund Record of Decision, Harris Corp (Palm Bay Plant), OU2, Palm Bay, Florida EPA R04-R95-211 February 1995

U S Environmental Protection Agency (USEPA) 1995b Explanation of Significant Differences, Operable Unit Two, Harris Corporation/Palm Bay Facility Superfund Site E46-14(12) December 1995

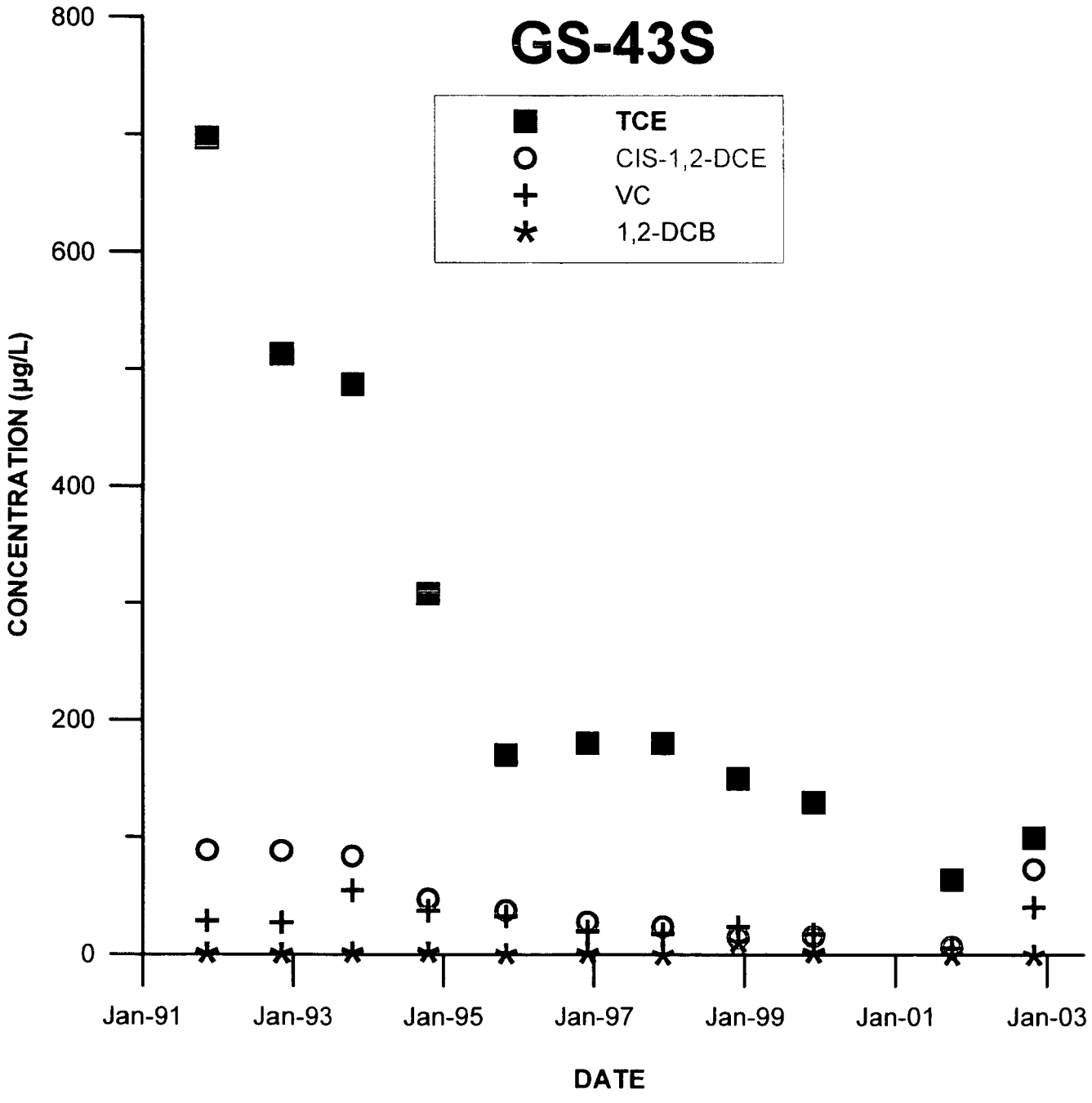
United State of America v Harris Corporation 1991 OU1 Consent Decree, In the United States District Court for the Middle District of Florida, Orlando Division Civil Action No 91-624-CIV-ORL-19 October 1991

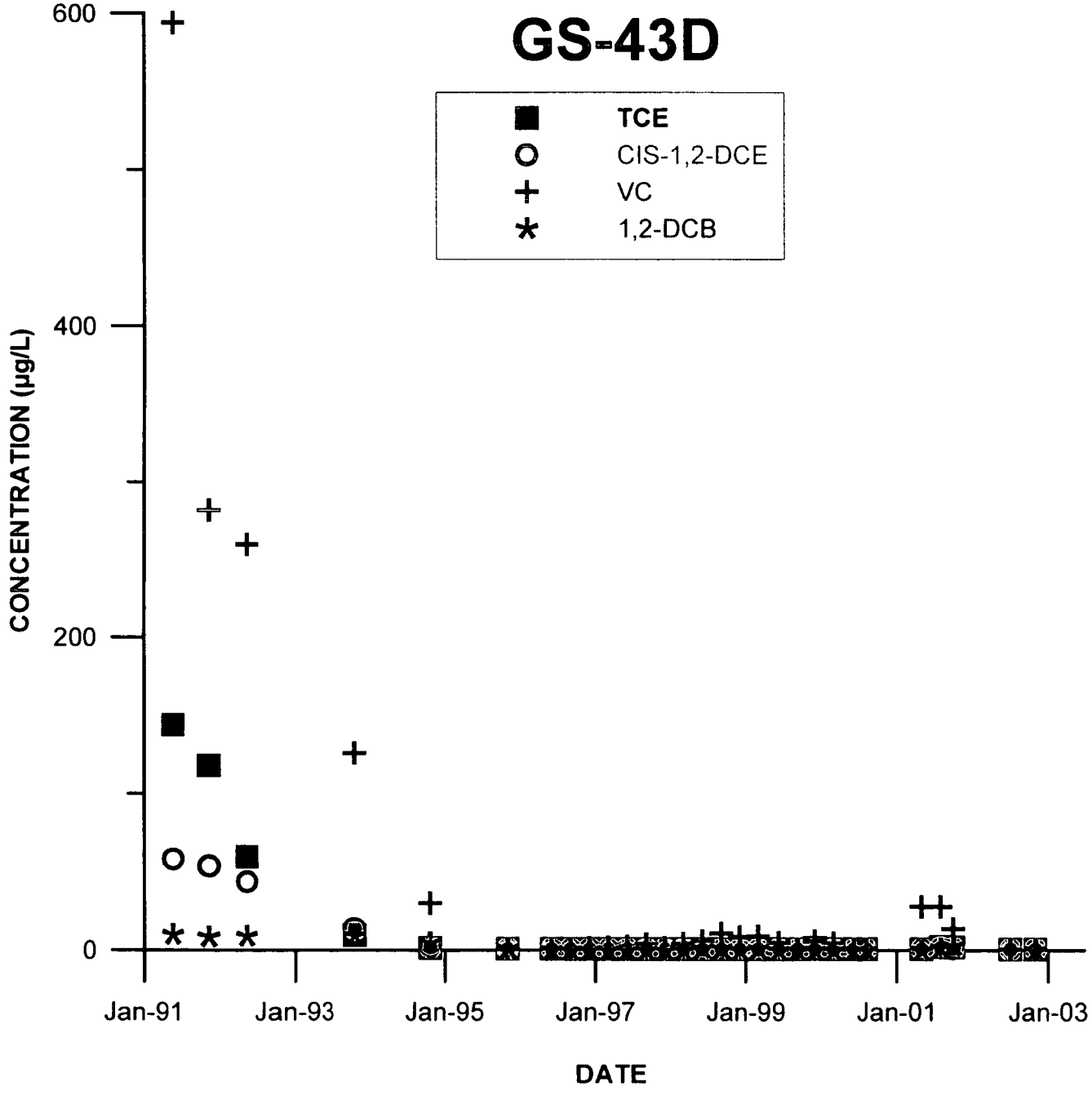
OU1
WELL POINT GROUP

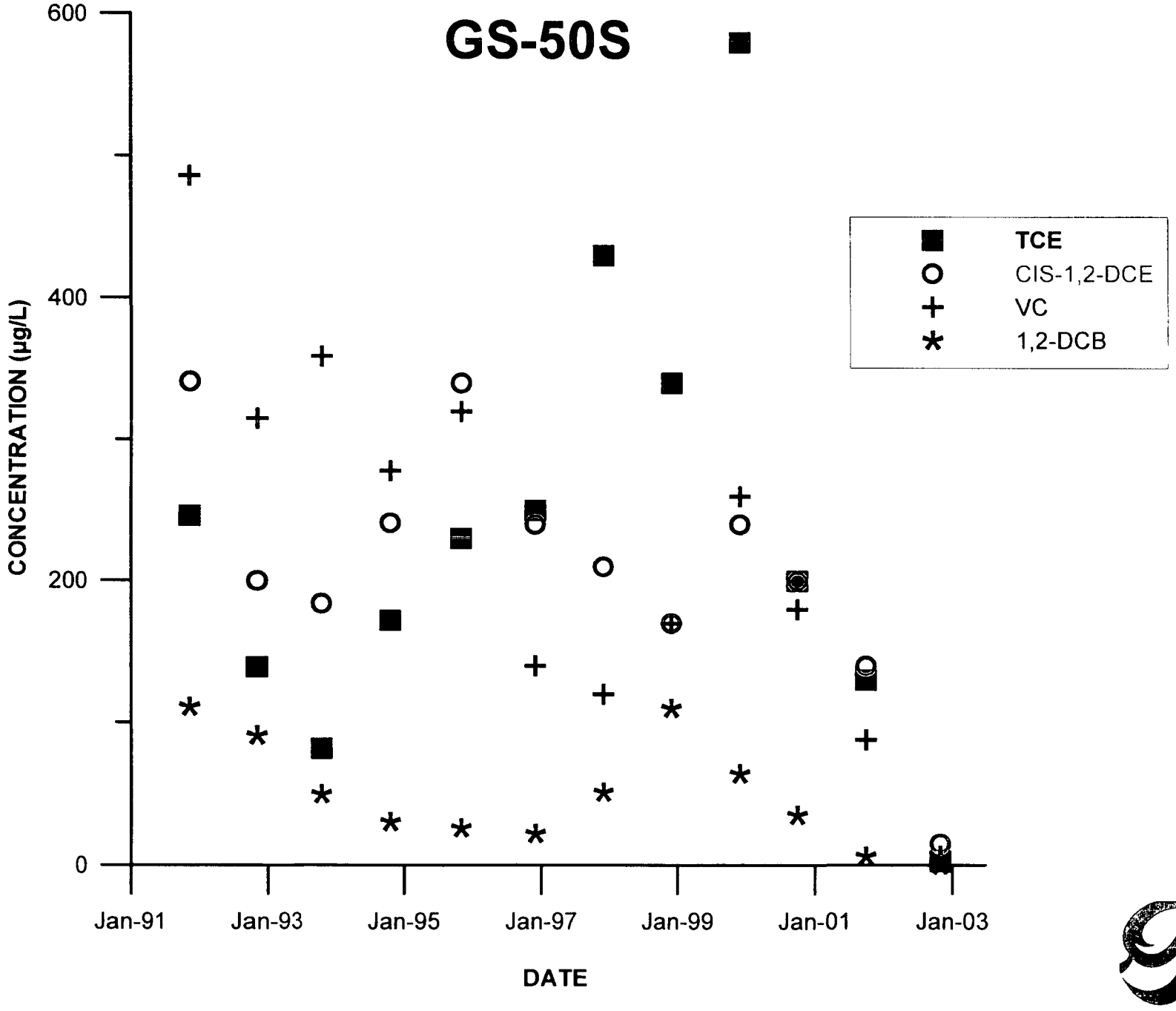

GS-18S
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
100
80
60
40
20
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

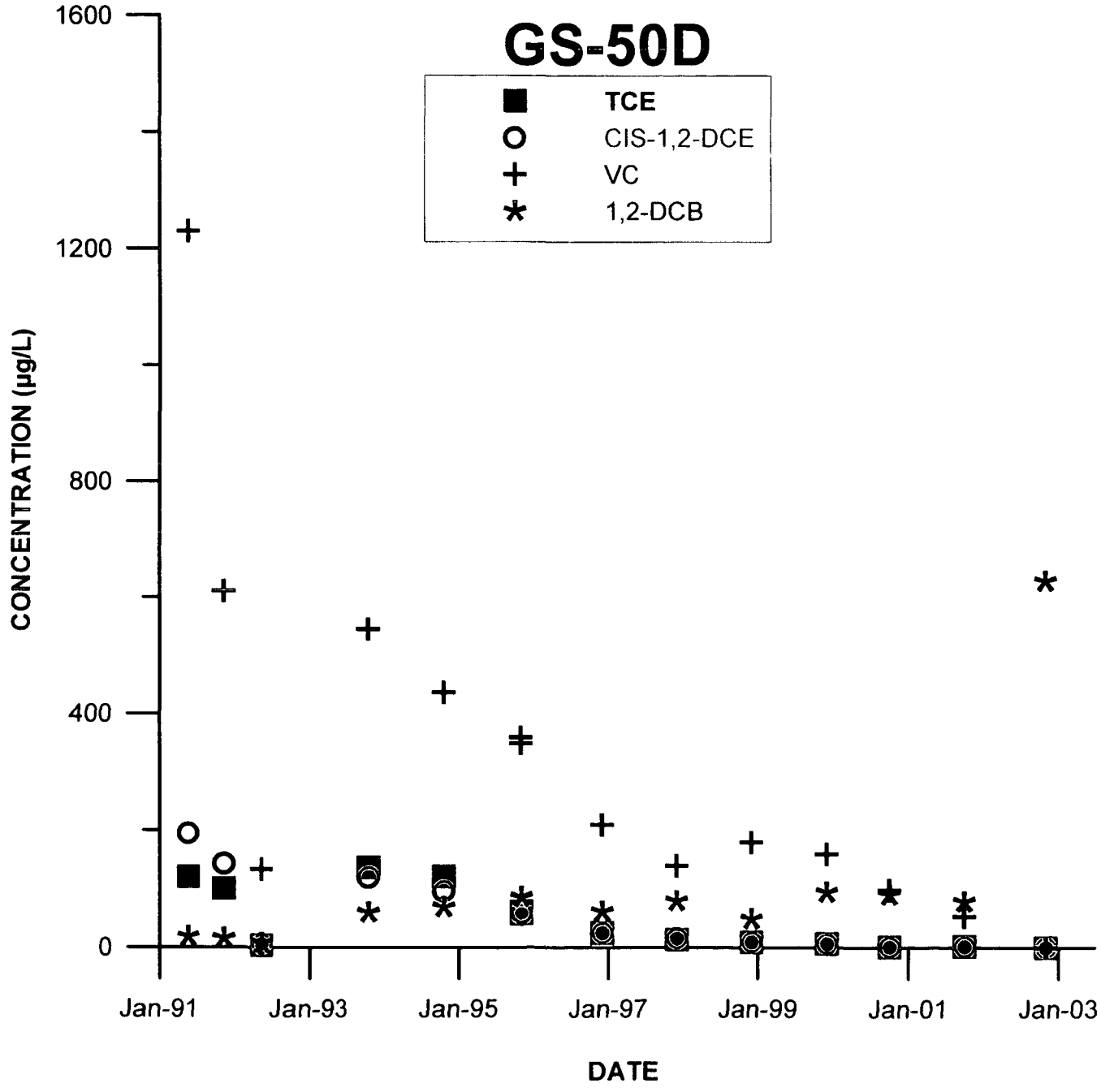

GS-44S
400
300
200
100
0
CONCENTRATION (µg/L)
TCE
CIS-1,2-DCE
VC
1,2-DCB
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

OU1
CONTROL WELL GROUP

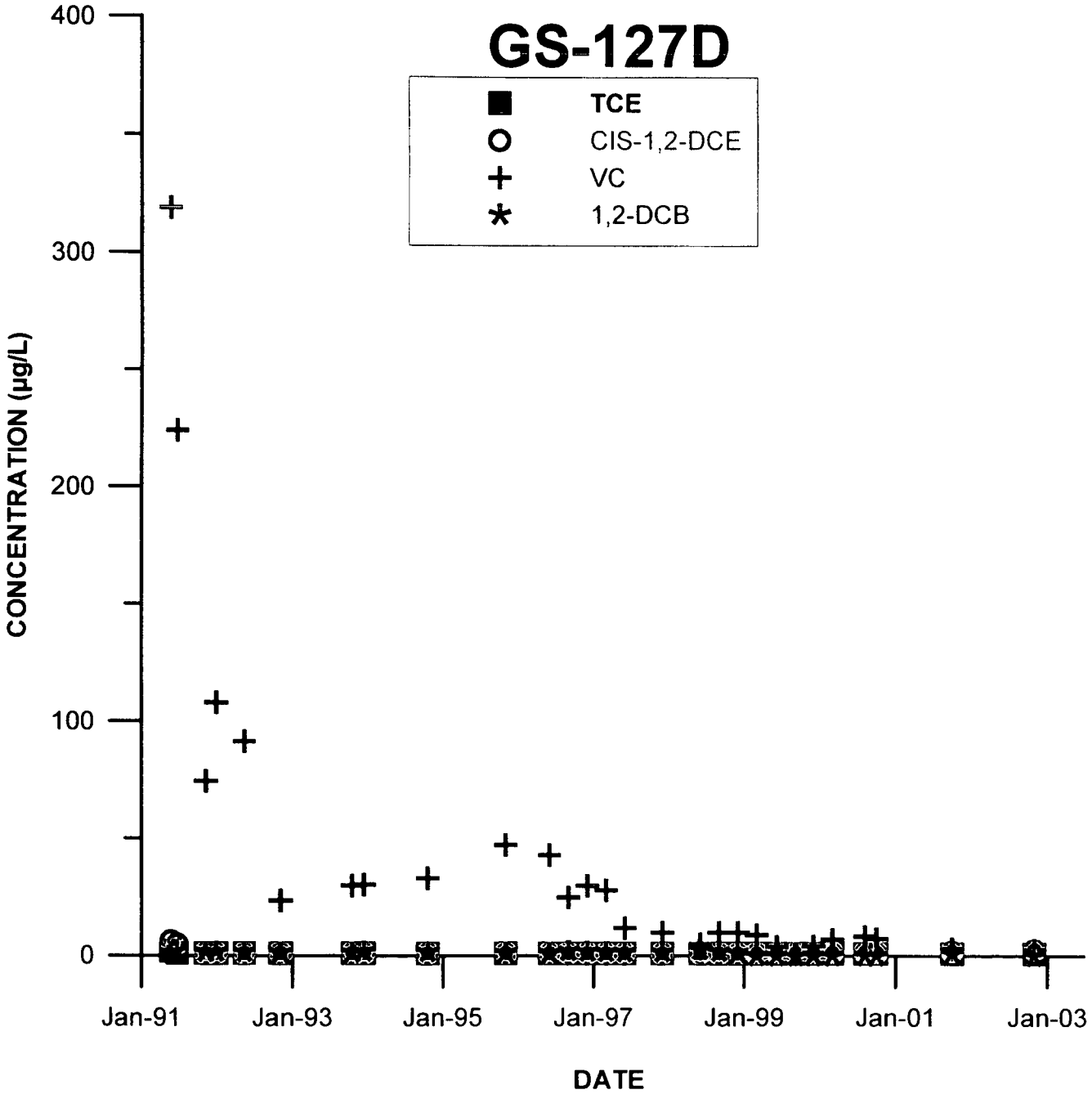

GS-43S
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
800
600
400
200
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

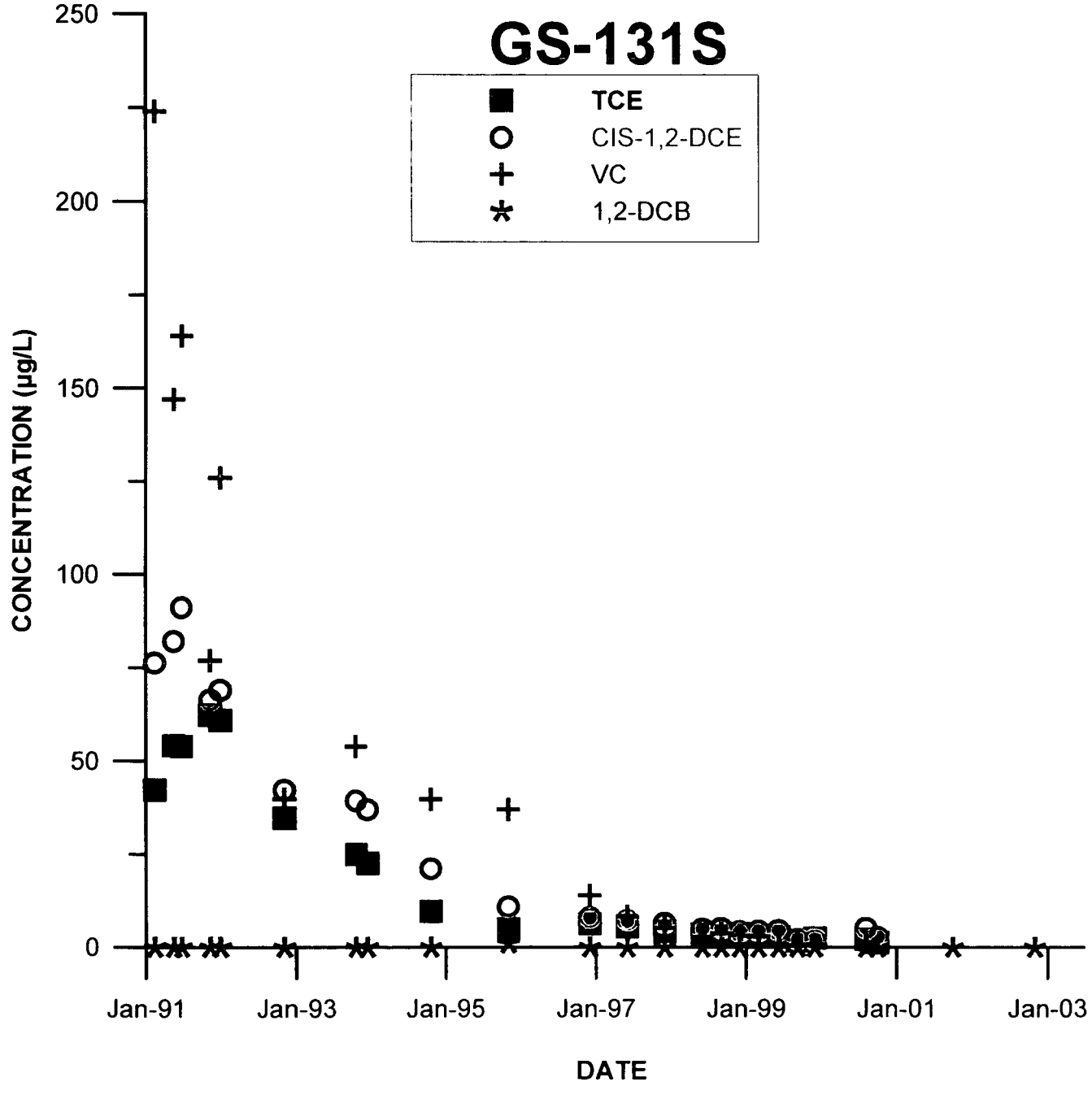

GS-43D
TCE
CIS-1,2-DCE
VC
1,2-DCB
600
400
200
0
CONCENTRATION (µg/L)
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE


GS-50S
600
400
200
0
CONCENTRATION (µg/L)
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE
TCE
CIS-1,2-DCE
VC
1,2-DCB

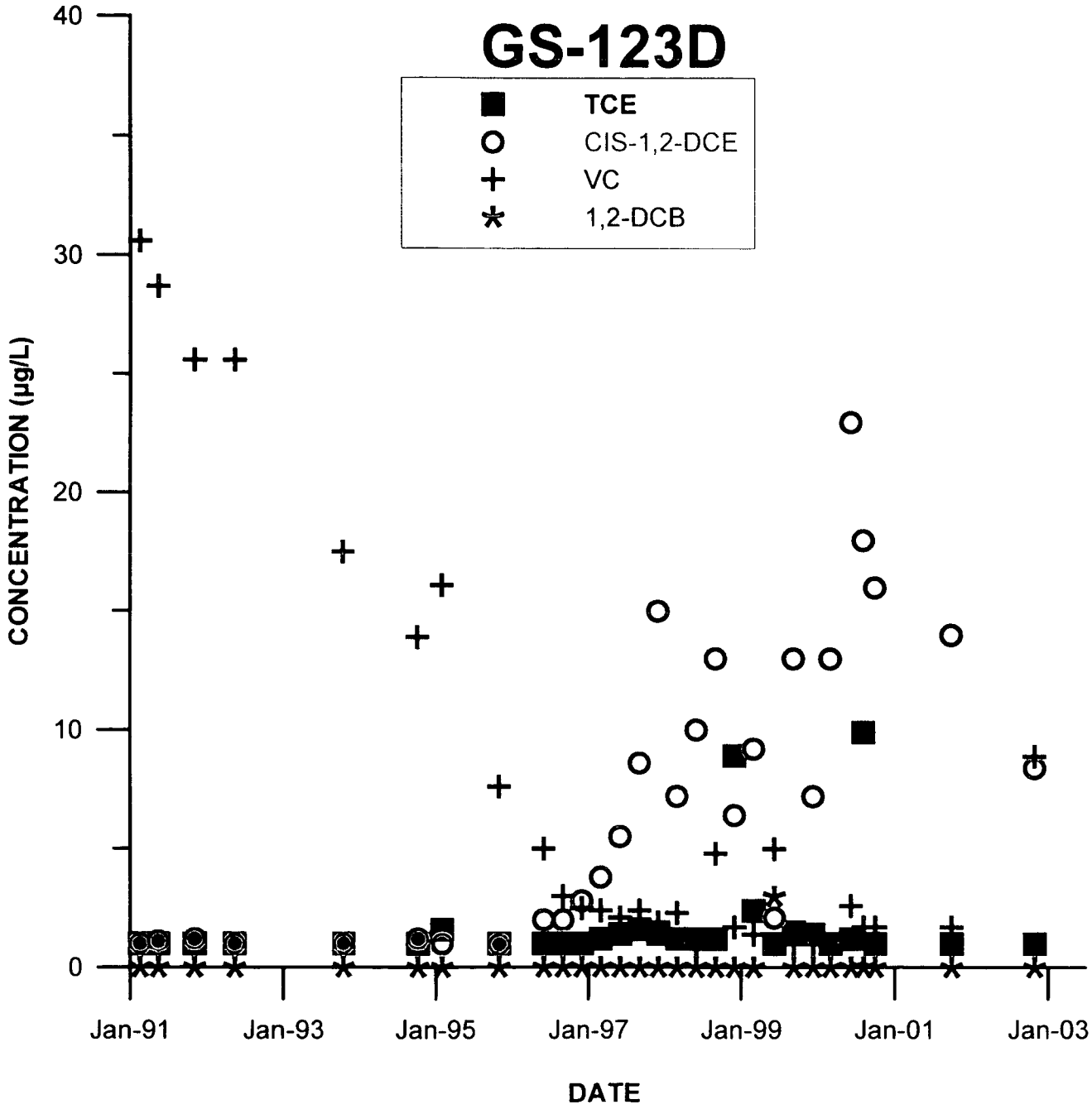

GS-50D
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
1600
1200
800
400
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

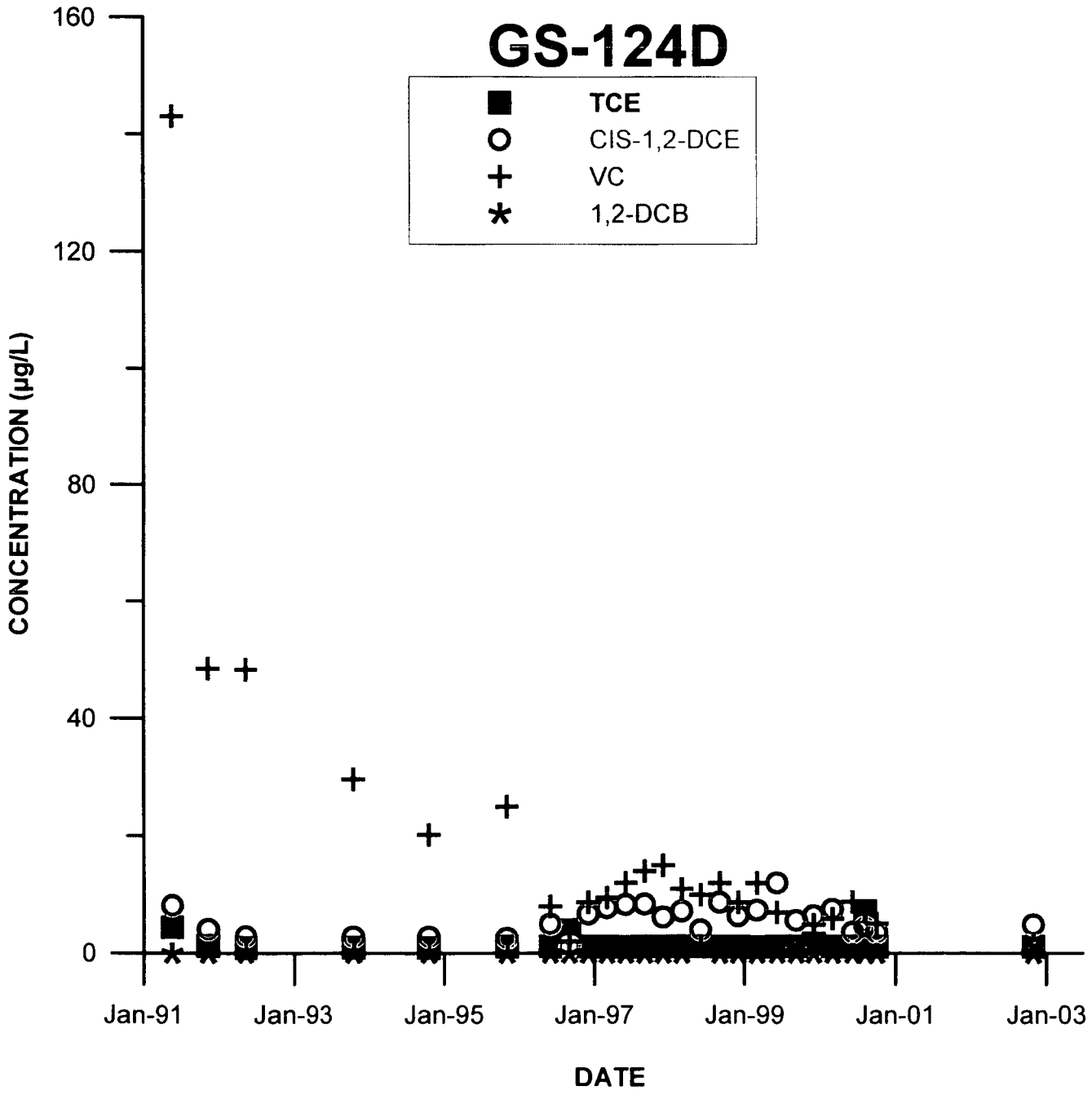
OU1
PARKING LOT WELL GROUP

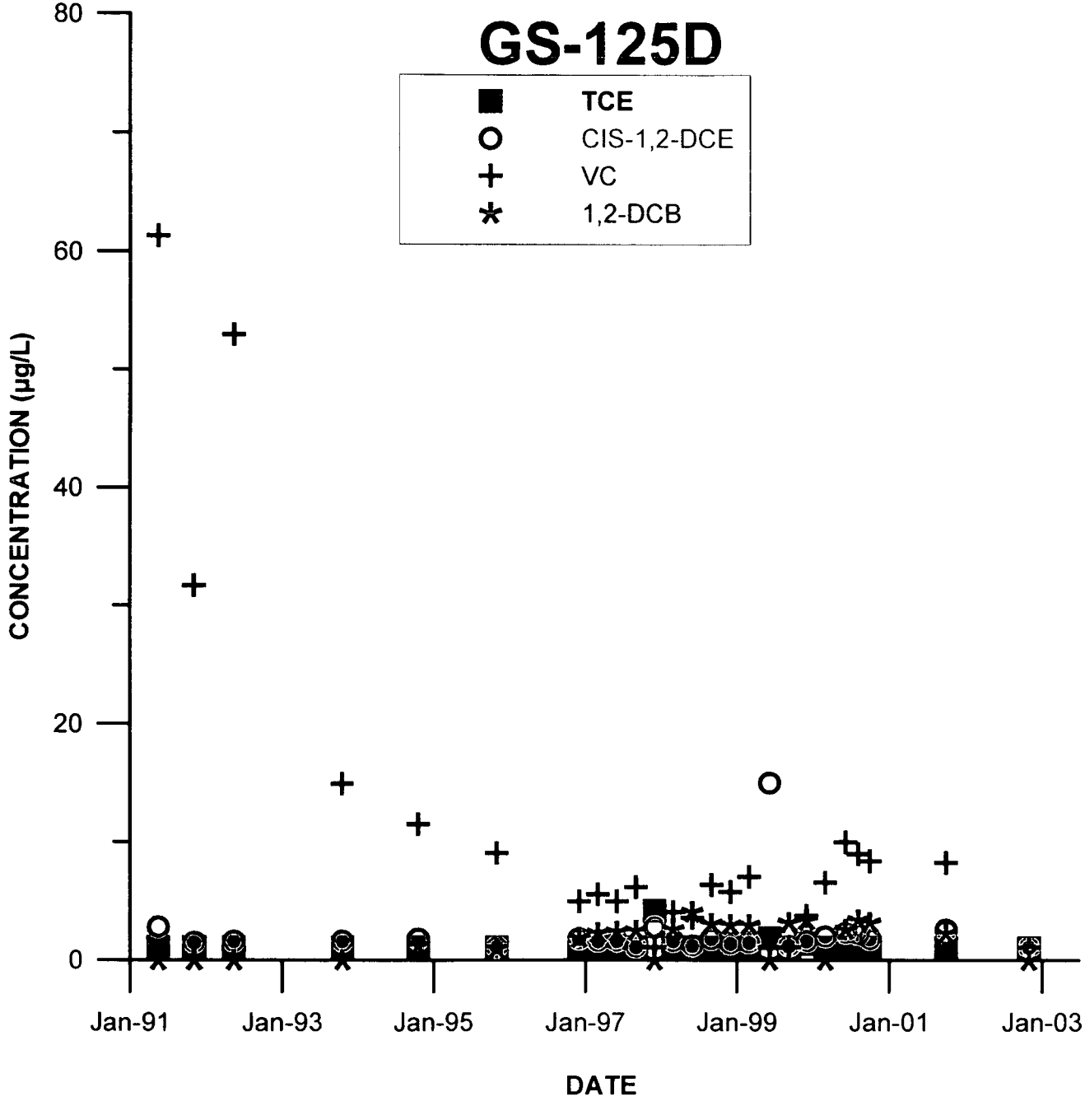

GS-127D
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
400
300
200
100
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE


GS-131S
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
250
200
150
100
50
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

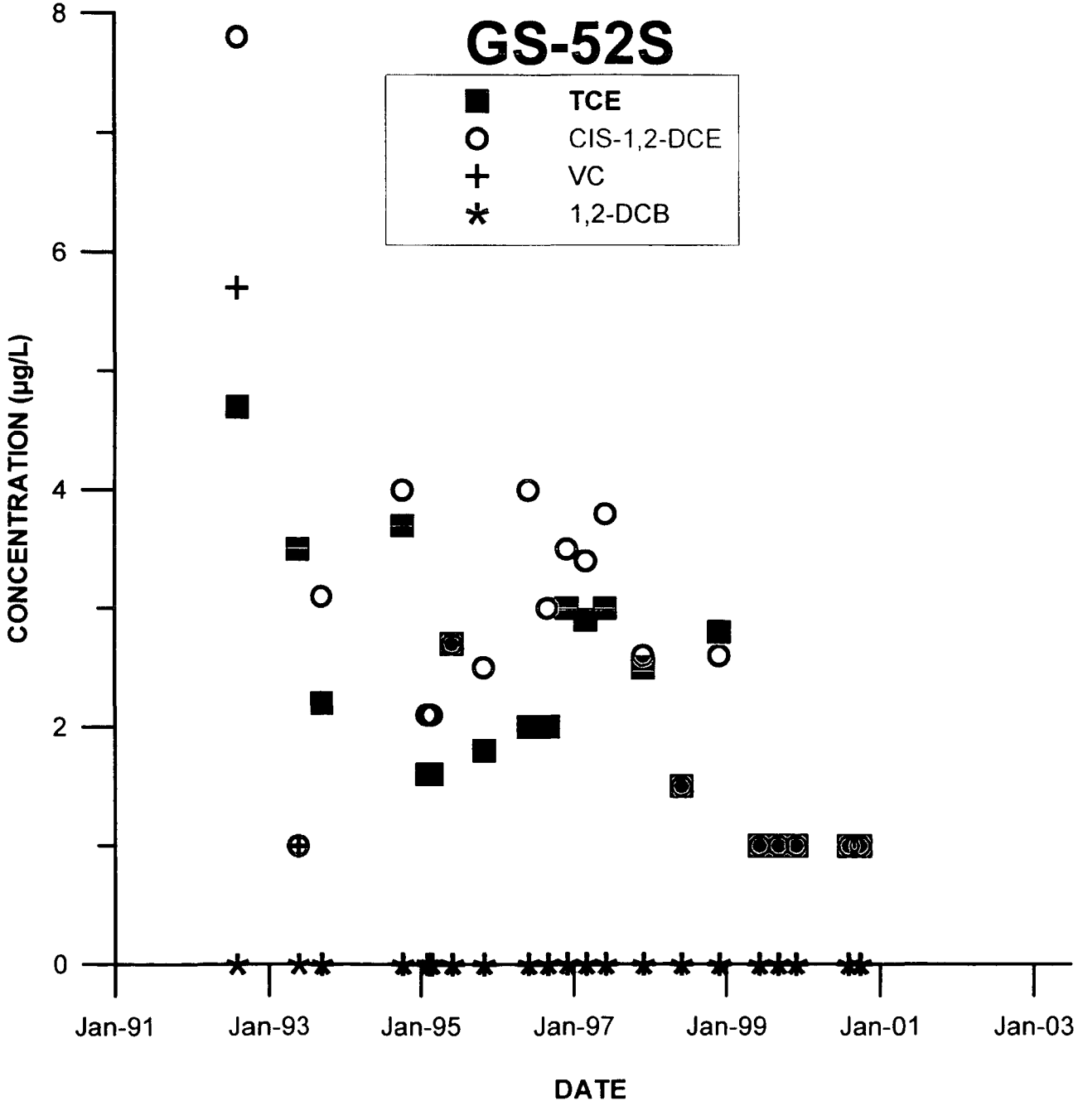
OU1
BARRIER WELL GROUP

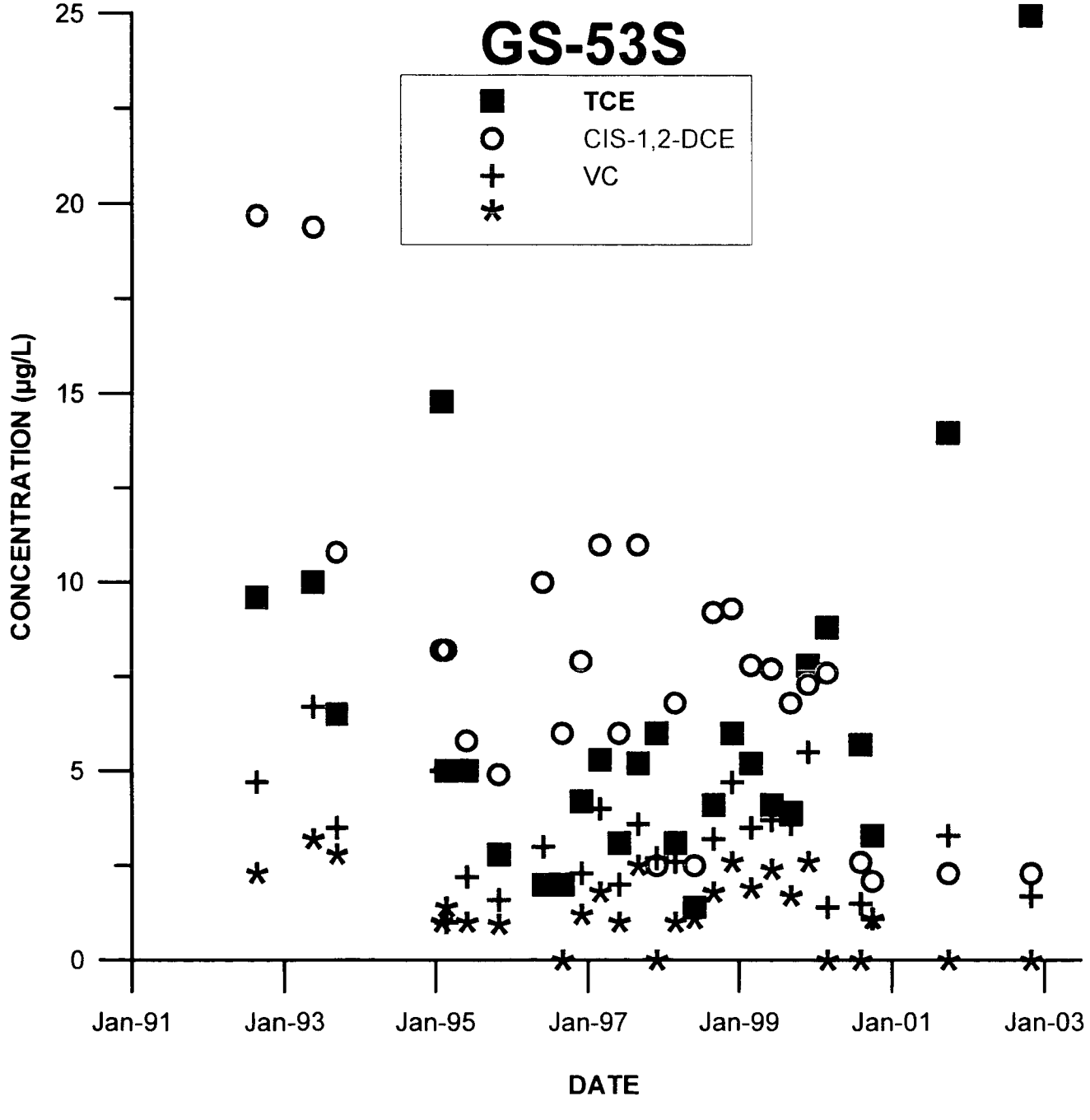

GS-123D
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
40
30
20
10
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

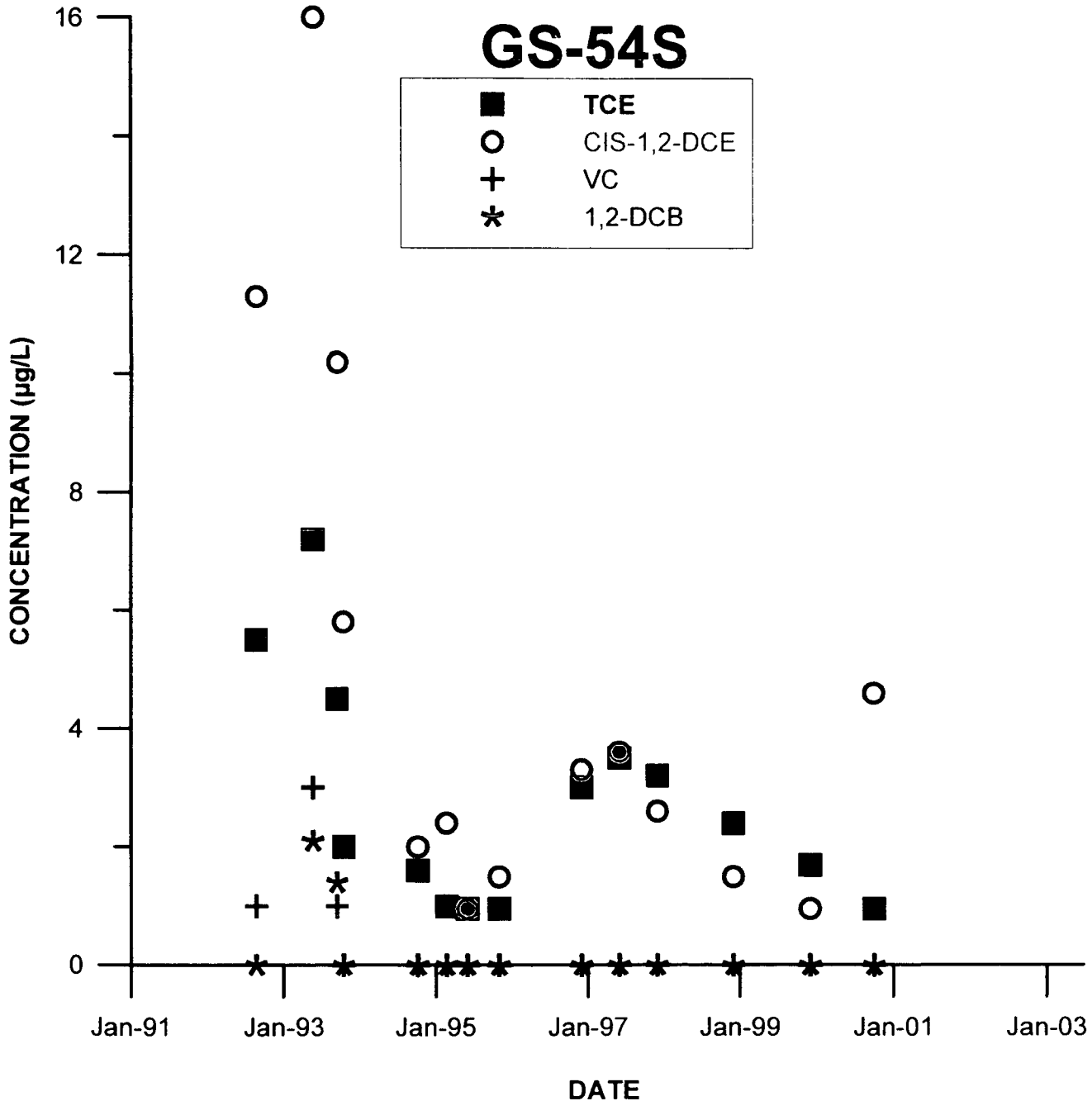

GS-124D
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
160
120
80
40
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE


GS-125D
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
80
60
40
20
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

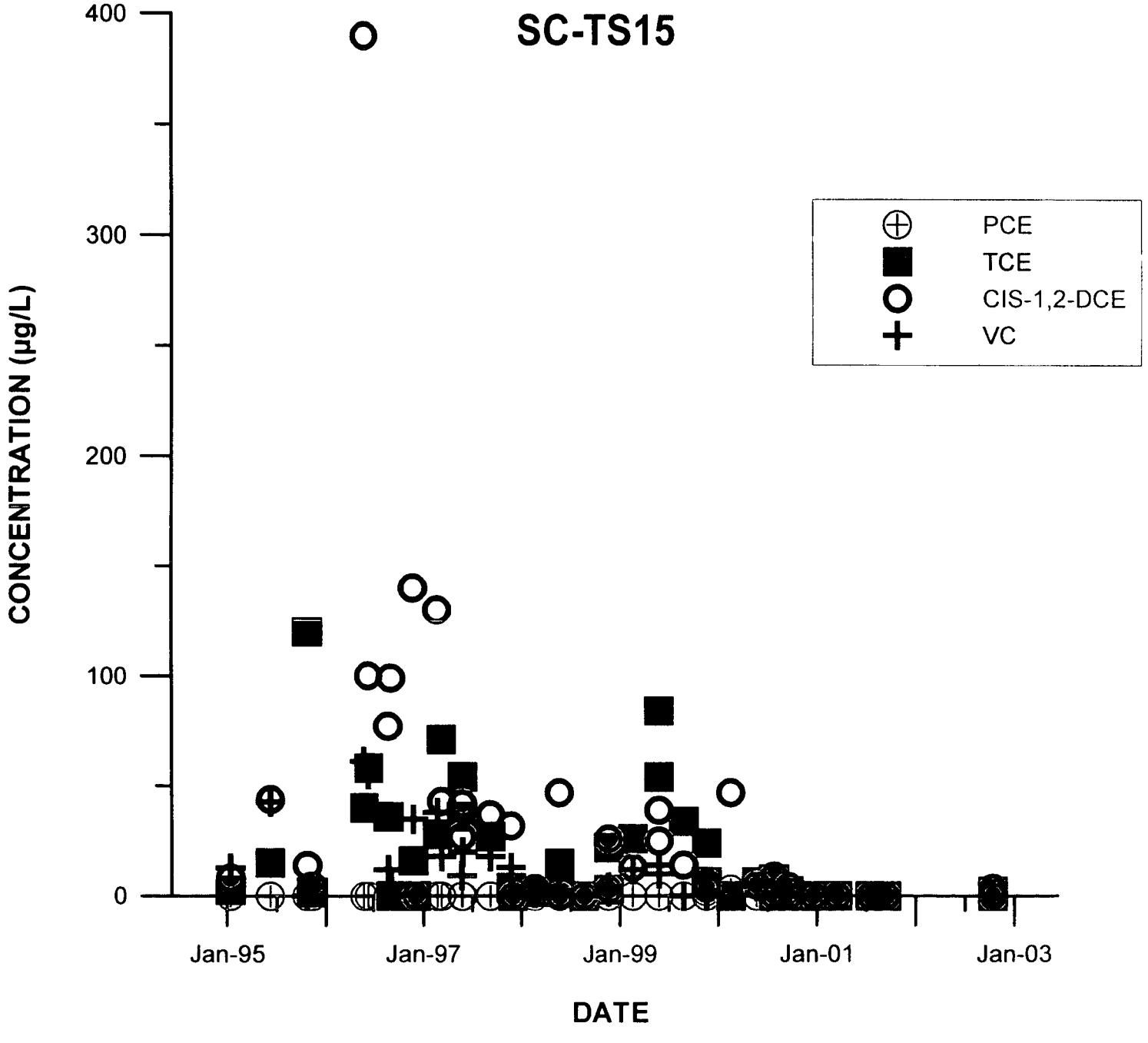
OU1
BUILDING 100 WELL GROUP

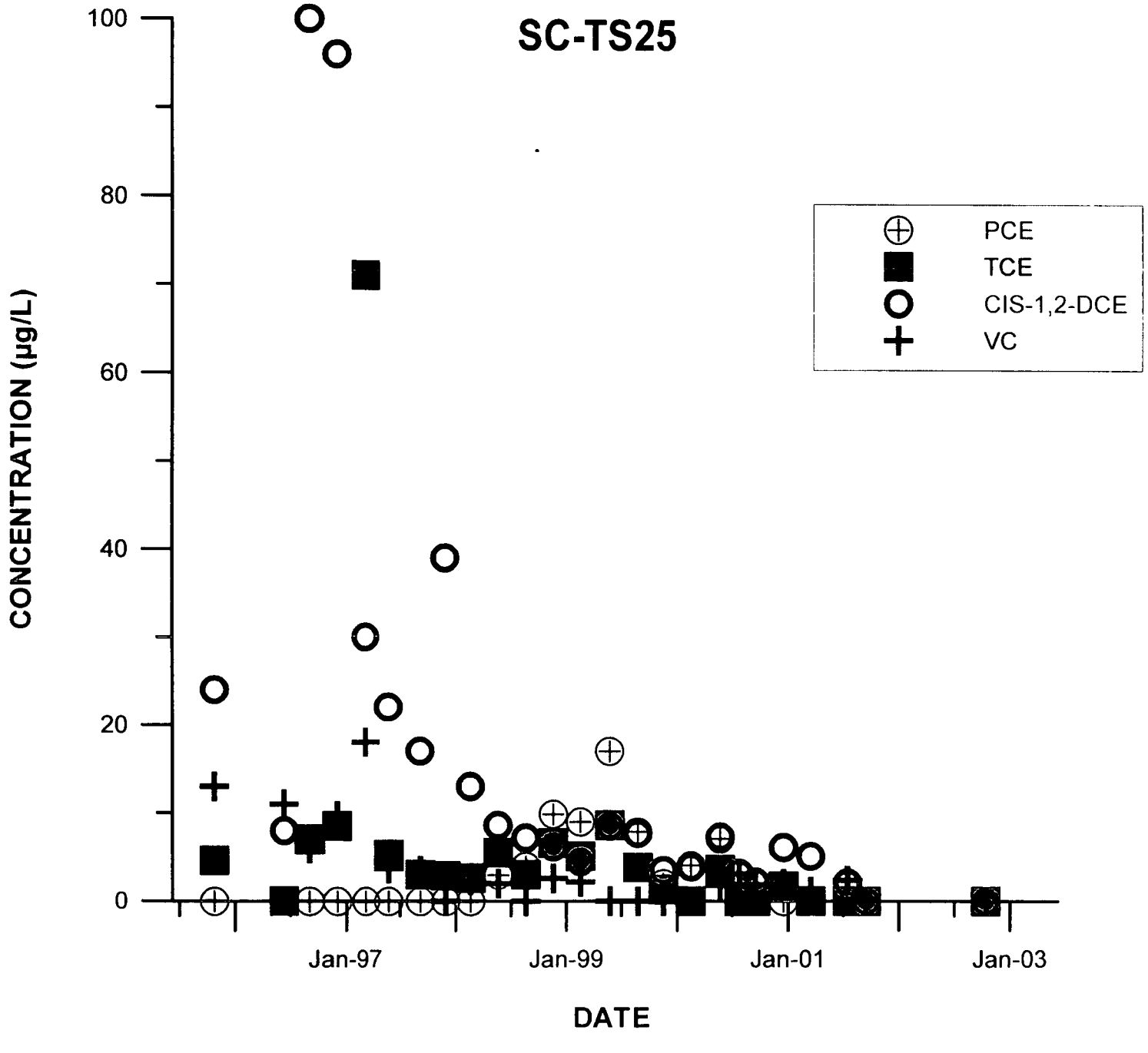

GS-52S
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
0
2
4
6
8
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

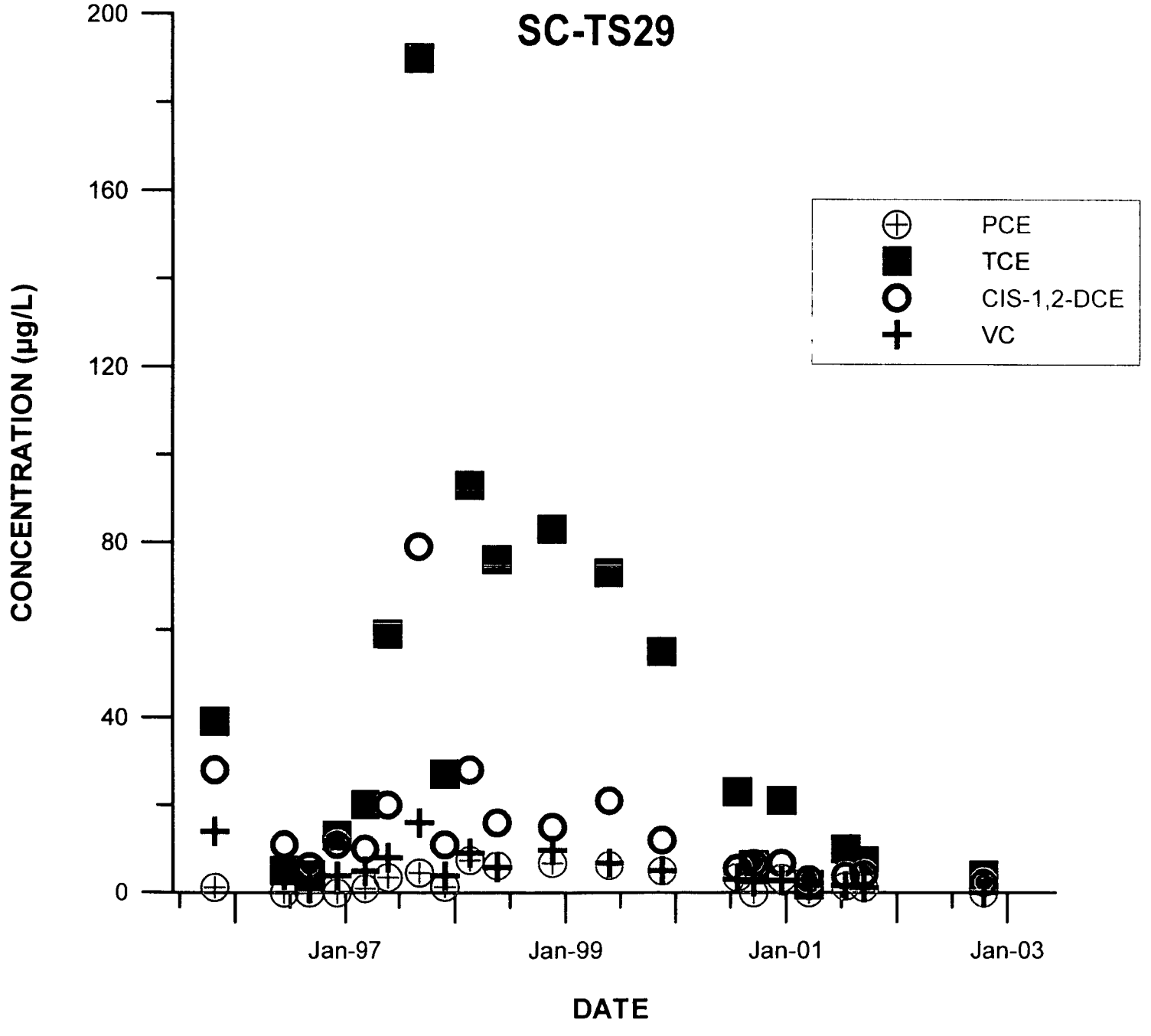

GS-53S
TCE
CIS-1,2-DCE
VC
CONCENTRATION (µg/L)
25
20
15
10
5
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

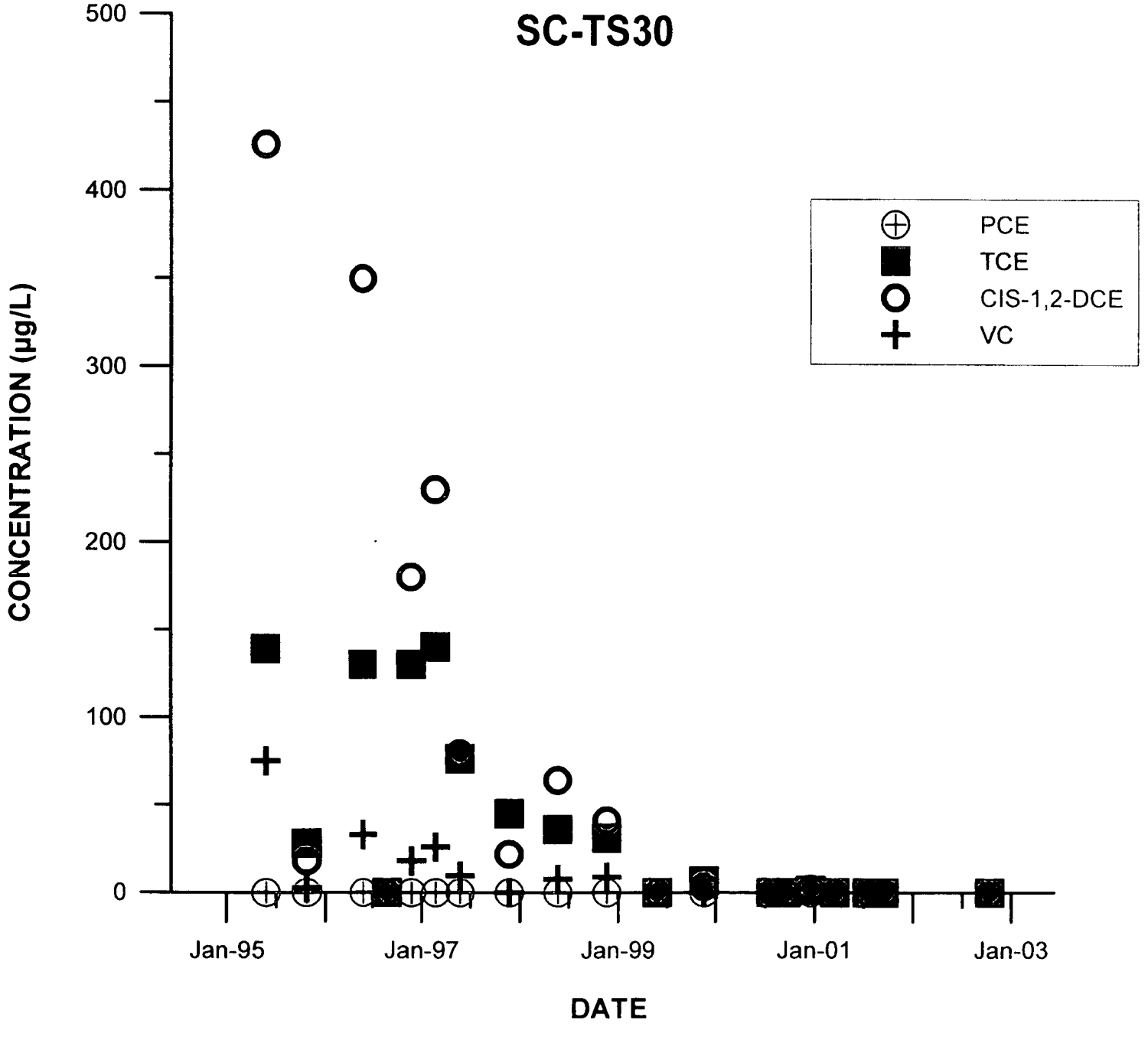

GS-54S
TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
16
12
8
4
0
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

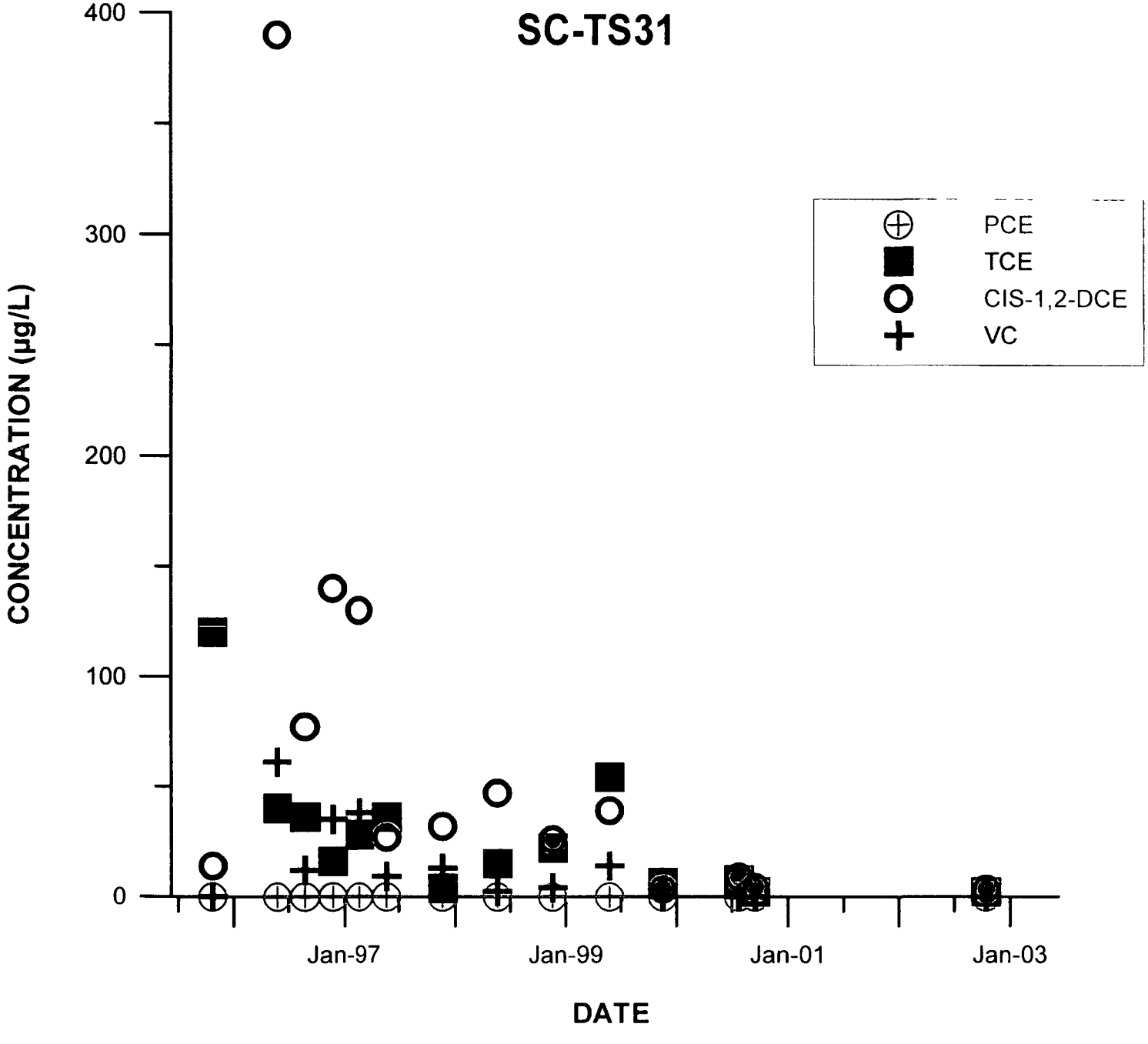
OU2 RECOVERY WELLS

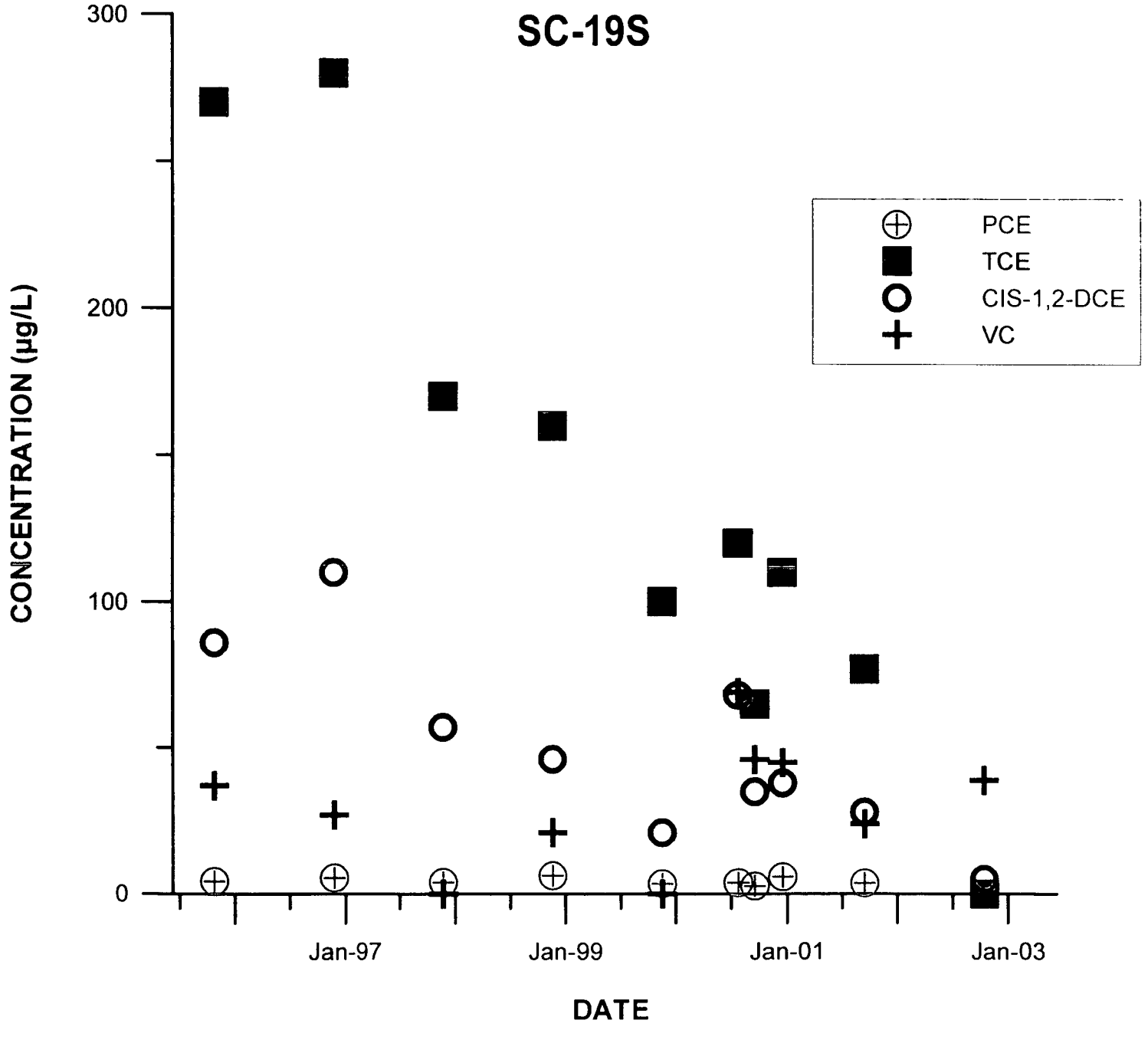

SC-TS15
400
300
200
100
0
CONCENTRATION (µg/L)
PCE
TCE
CIS-1,2-DCE
VC
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE


SC-TS25
CONCENTRATION (µg/L)
100
80
60
40
20
0
Jan-97
Jan-99
Jan-01
Jan-03
DATE
PCE
TCE
CIS-1,2-DCE
VC


SC-TS29
200
160
120
80
40
0
CONCENTRATION (µg/L)
PCE
TCE
CIS-1,2-DCE
VC
Jan-97
Jan-99
Jan-01
Jan-03
DATE

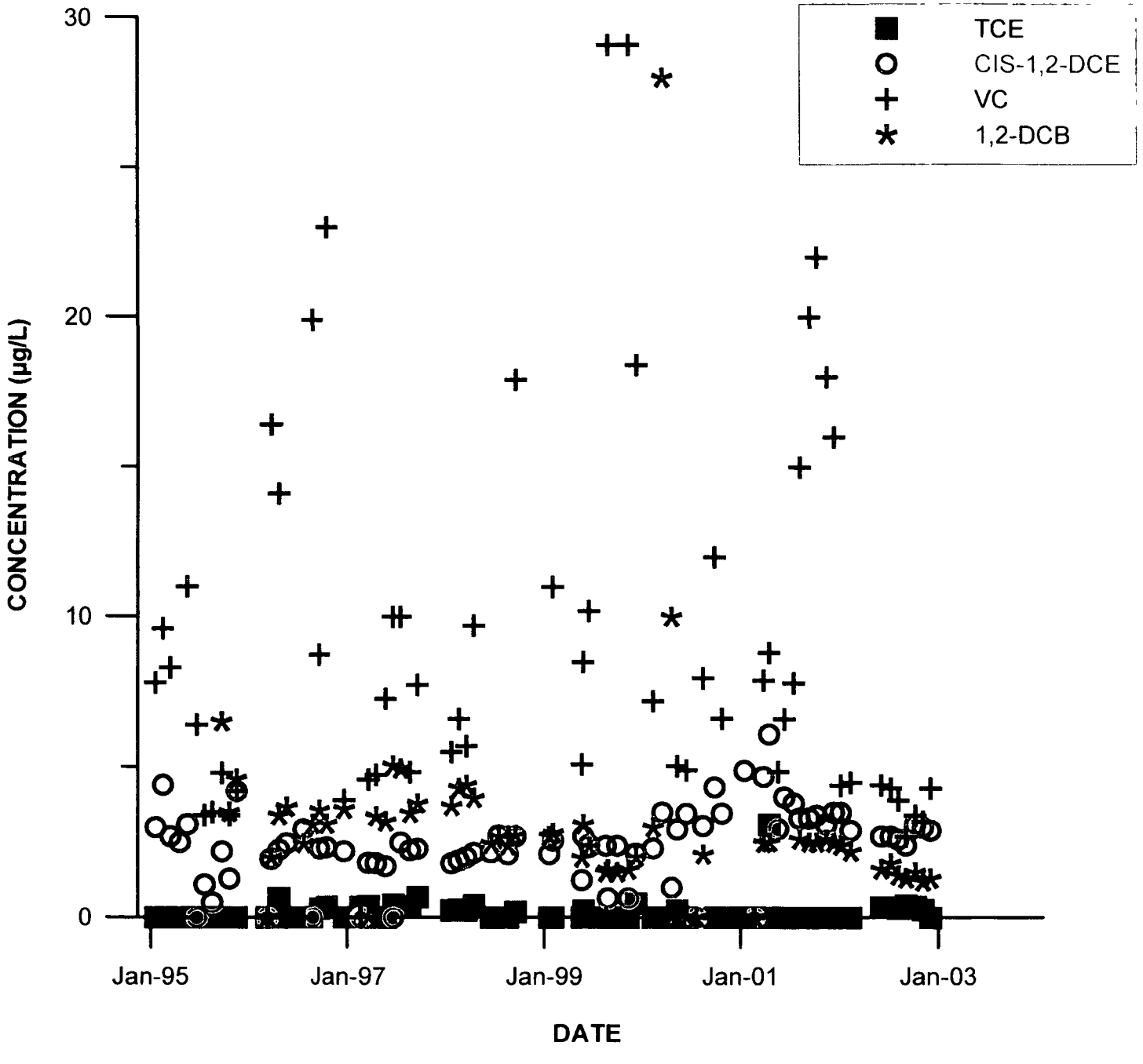

SC-TS30
CONCENTRATION (µg/L)
500
400
300
200
100
0
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE
PCE
TCE
CIS-1,2-DCE
VC

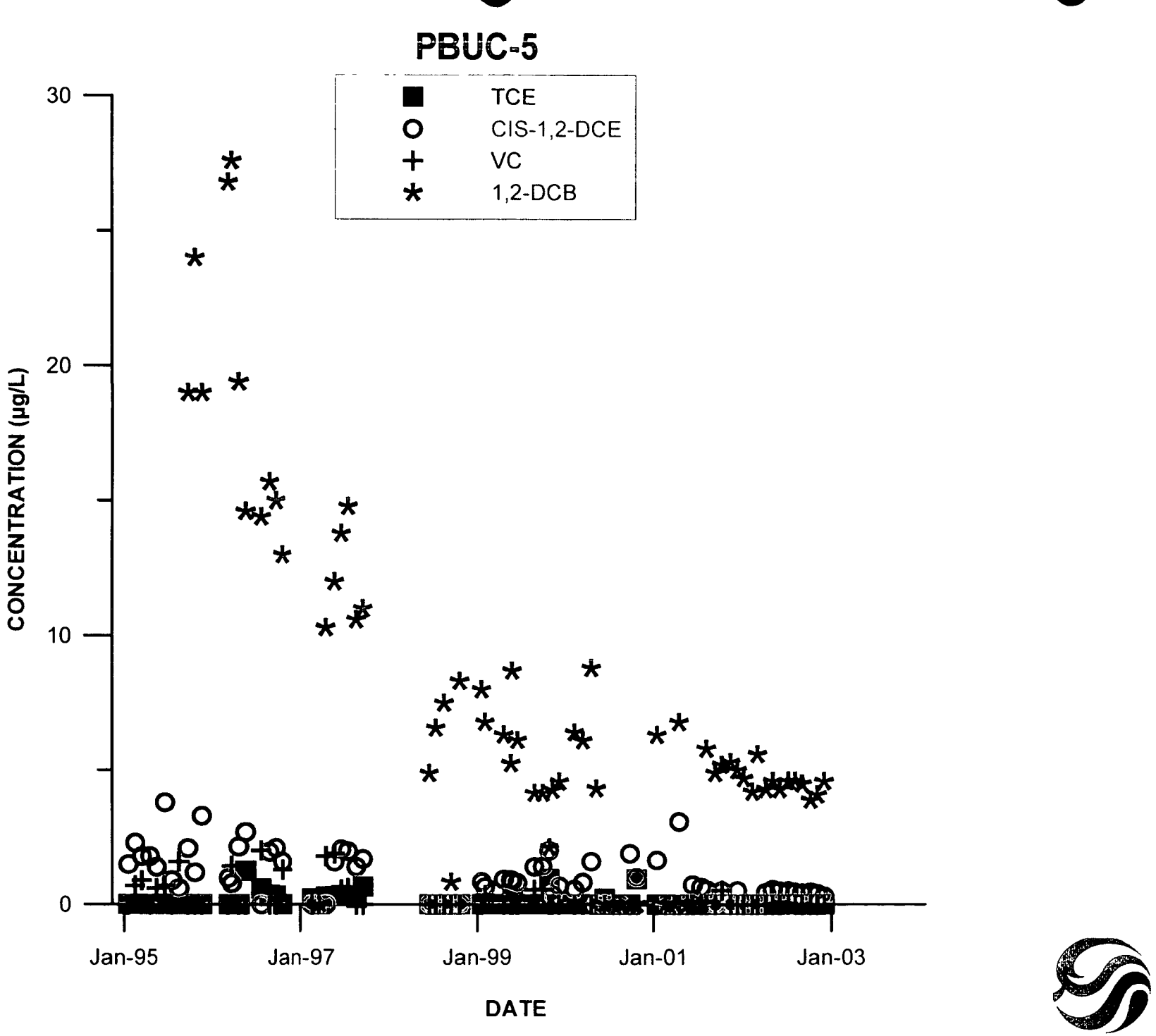

SC-TS31
400
300
200
100
0
CONCENTRATION (µg/L)
PCE
TCE
CIS-1,2-DCE
VC
Jan-97
Jan-99
Jan-01
Jan-03
DATE


SC-19S
300
200
100
0
CONCENTRATION (µg/L)
PCE
TCE
CIS-1,2-DCE
VC
Jan-97
Jan-99
Jan-01
Jan-03
DATE

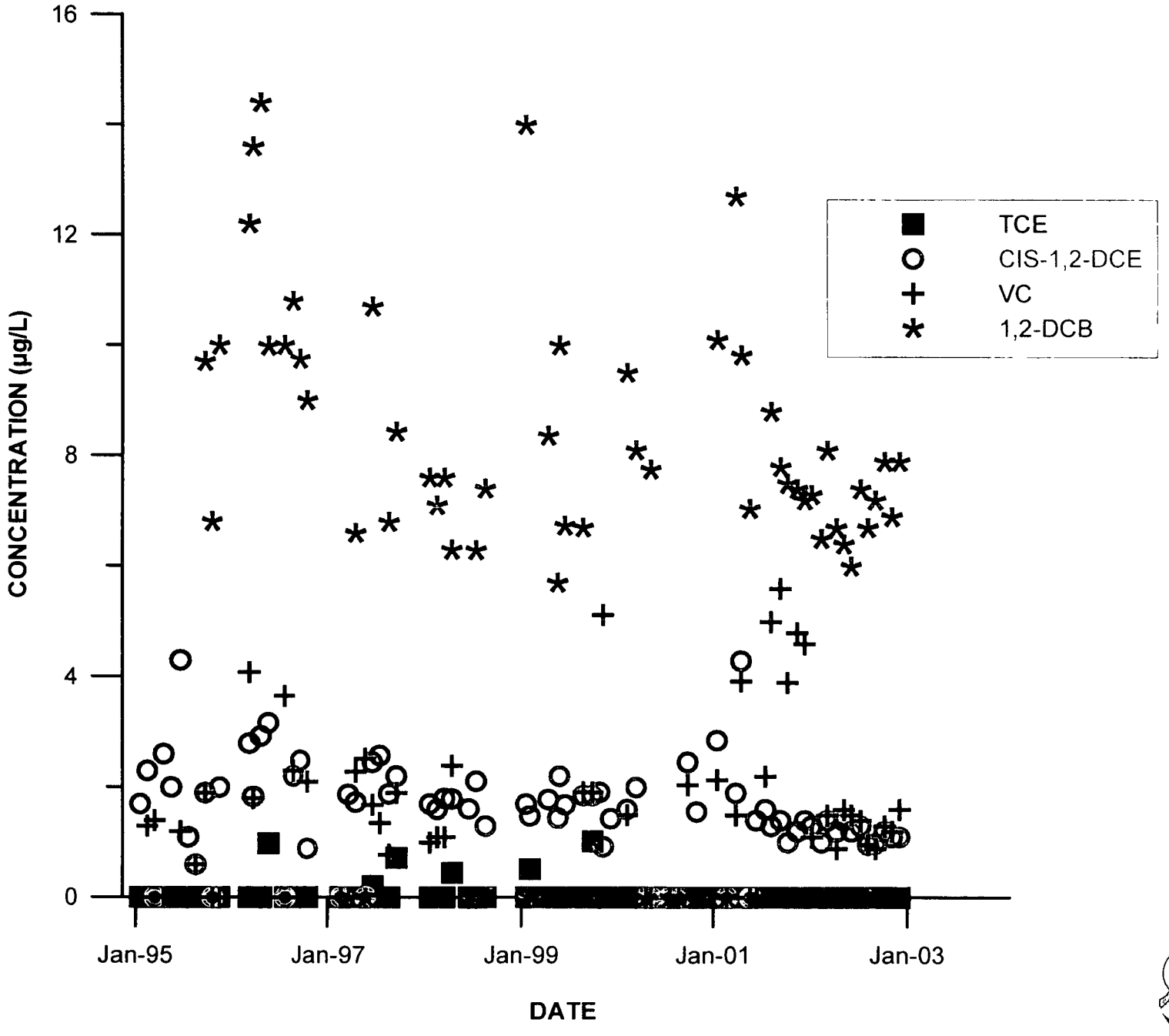
PBUC WELLS

PBUC-3

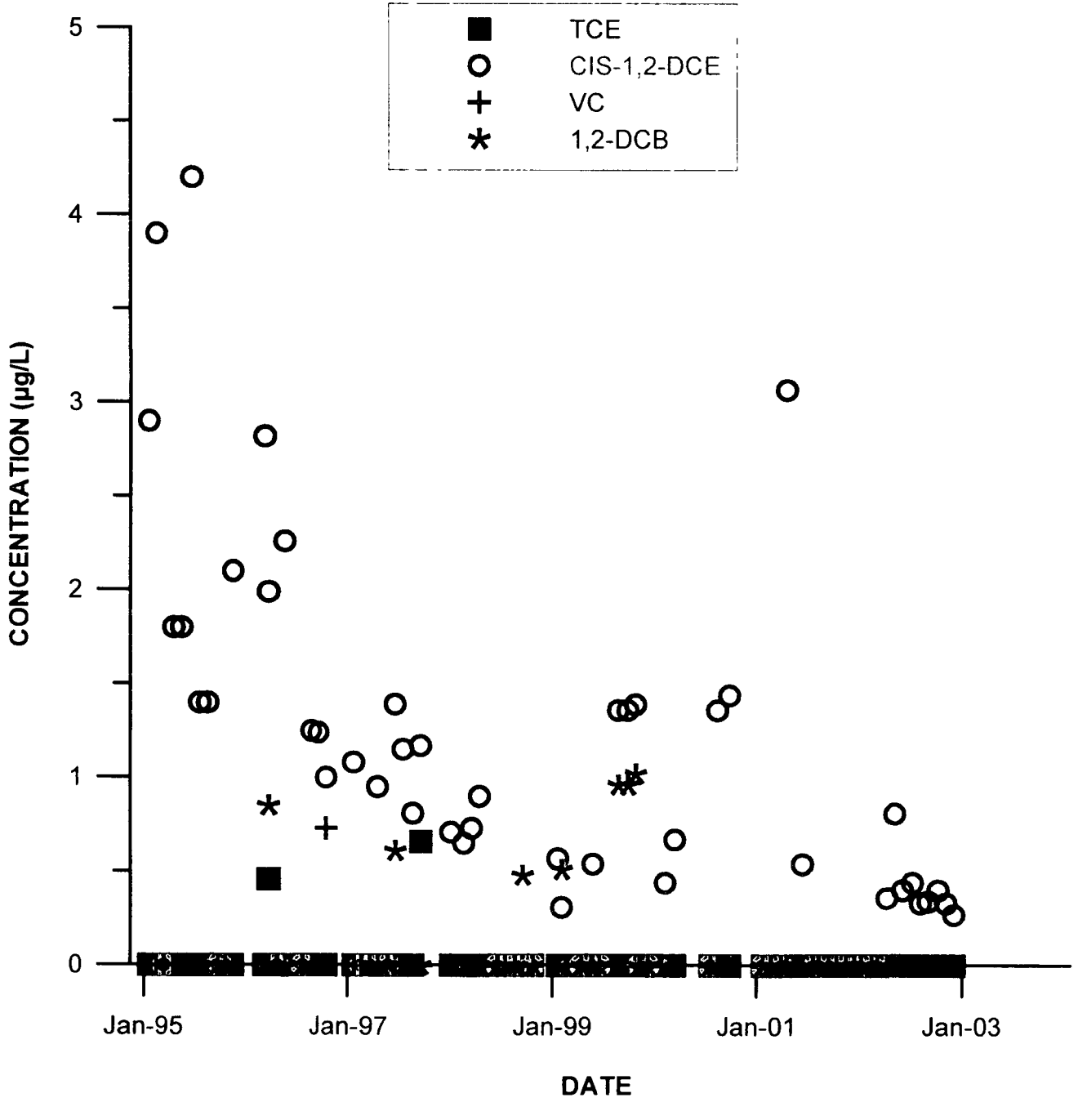

TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
30
20
10
0
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE


PBUC-5
TCE
CIS-1,2-DCE
VC
1,2-DCB
30
20
10
0
CONCENTRATION (µg/L)
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

PBUC-8


16
12
8
4
0
CONCENTRATION (µg/L)
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE
TCE
CIS-1,2-DCE
VC
1,2-DCB

PBUC-17


TCE
CIS-1,2-DCE
VC
1,2-DCB
CONCENTRATION (µg/L)
0
1
2
3
4
5
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
DATE

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation, Palm Bay, Florida

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Shallow_Wells									
GS-M1	Nov-95	2 2	< 0 92	1 9	< 0 81	< 0 85	< 0 66	1 6	15
	Dec-96	3 4	< 1 0	5 8	< 1 0	< 1 0	< 1 0	5.3	18
	Dec-97	3 7	< 1 0	1 7	< 1 0	< 1 0	< 1 0	< 1 0	2 3
	Dec 98	5 6	< 1 0	2 9	< 1 0	< 1 0	< 1 0	3,1	14
	Dec-99	2 7	< 1 0	1 9	< 1 0	< 2 0	< 1 0	< 1 0	4.5
	Oct 00	3 0	< 1 0	16	< 1 0	< 5 0	< 1 0	< 1 0	11
	Oct 01	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	1 0
	Nov 02	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
GS-M2	Nov-95	< 0 62	< 0 92	1 5	< 0 81	< 0 85	< 0 66	< 0 92	5.1
	Dec-96	< 1 0	< 1 0	1 5	< 1 0	< 1 0	< 1 0	< 1 0	5 1
	Dec 97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Jun-99	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Sep-99	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	< 1 0
	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Oct-01	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Nov-02	< 1 0	< 1 0	3 6	< 1 0	< 5 0	< 1 0	6.5	< 1 0
GS-M3	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	29	< 1 0
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	20	< 1 0
	Dec-99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	3.1	< 1 0
	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Oct-01	< 1 0	< 1 0	1 1	< 1 0	< 5 0	< 1 0	1 5	< 1 0
	Nov-02	< 1 0	< 1 0	1	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
GS-M4	Dec 96	< 1 0	180	1 1	< 1 0	< 1 0	2 6	1 9	12
	Dec 97	< 40	73	< 40	< 40	< 40	< 40	< 40	54
	Dec-98	2 8	7.9	4 0	< 2 0	16	3.2	4.6	10
	Dec-99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	< 1 0
	Oct 00	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
Duplicate	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Oct-01	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Nov-02	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
GS-M5	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	< 1 0
GS-M7	Nov-95	< 0 62	< 0 92	8 1	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec-96	< 1 0	< 1 0	12	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	7 4	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-98	< 1 0	< 1 0	5 2	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-M9	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
GS-M12	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	2 3	< 1 0	< 1 0	< 1 0	1 2	< 1 0
Duplicate	Dec-97	< 1 0	< 1 0	1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS M13	Nov-95	0 74	< 0 92	25	< 0 81	< 0 85	2 2	30	14
	Jun-96	< 1 0	< 1 0	10	< 1 0	< 1 0	< 1 0	10	3 0
	Sep-96	2 0	< 1 0	26	< 1 0	< 1 0	4.0	16	9.0
	Dec-96	0 74	1 0	31	< 1 0	< 1 0	3'8	40	9.3

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal

12DCB = 1 2 Dichlorobenzene/11DCE = 1 1 Dichloroethene/C12DCE = cis 1 2 Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1 Harris Corporation, Palm Bay, Florida

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Shallow_Wells									
	Mar-97	3 3	< 1 0	39	< 1 0	< 1 0	4 7	37	14
	Dec 97	< 1 0	1 0	1 2	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 99	< 1 0	< 1 0	1 0	< 1 0	< 2 0	< 1 0	1 5	< 1 0
GS-M14	Jun-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Sep 96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Mar-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Duplicate	Mar 97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-M16	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 97	2 9	< 1 0	2 2	< 1 0	< 1 0	< 1 0	4.1	6 6
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	< 1 0
	Oct-00	2 9	< 1 0	3 8	< 1 0	< 5 0	< 1 0	5.1	6.5
	Oct 01	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Nov-02	< 1 0	< 1 0	1 1	< 1 0	< 5 0	< 1 0	3.1	4 9
GS-M22	Mar-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS M25	Dec 97	< 1 0	< 1 0	3 2	< 1 0	< 1 0	1 7	2 0	< 1 0
Duplicate	Dec-97	< 1 0	< 1 0	5 0	< 1 0	< 1 0	2 0	3 0	< 1 0
	Dec-98	< 1 0	< 1 0	2 6	< 1 0	< 1 0	< 1 0	1 9	1.4
	Dec-99	< 1 0	< 1 0	1 6	< 1 0	< 2 0	< 1 0	1 1	1.4
	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Oct-01	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Nov-02	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	3.3	< 1 0
GS-40SP	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
Intermediate_Wells									
GS 1S	Dec 96	3 7	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	3 5	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-8S	Nov 95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	1 9	< 0 9
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Duplicate	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-13S	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec 96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-18S	Nov-95	5 7	< 0 92	9 5	< 0 81	< 0 85	< 0 66	8.5	3.1
	Jun-96	< 1 0	< 1 0	10	< 1 0	< 1 0	< 1 0	6.0	8.0
	Dec 96	7 6	< 1 0	7 2	< 1 0	< 1 0	< 1 0	5 2	8.7
	Jun-97	9 6	< 1 0	6 3	< 1 0	< 1 0	< 1 0	4.3	9.6
	Sep 97	8 6	< 1 0	5 3	< 1 0	< 1 0	< 1 0	3.7	8.5
	Dec-97	9 0	< 1 0	5 1	< 1 0	< 1 0	< 1 0	3.6	6.1
	Mar-98	7 6	< 1 0	4 2	< 1 0	< 1 0	< 1 0	3.5	5.1
	Jun-98	11	< 1 0	2 6	< 1 0	< 1 0	< 1 0	2 6	3.8
	Sep-98	8 7	< 1 0	2 8	< 1 0	< 1 0	< 1 0	2 2	7 1
	Dec-98	9 5	< 1 0	2 0	< 1 0	< 1 0	< 1 0	2 2	7 1
	Mar-99	9 0	< 1 0	1 6	< 1 0	< 1 0	< 1 0	1 5	7.5
	Jun-99	13	< 1 0	1 8	< 1 0	< 1 0	< 1 0	1 6	5.7
	Sep-99	9 1	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Duplicate	Sep-99	9 3	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 99	11	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	1 2	4 8

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal

12DCB = 1 2 Dichlorobenzene/11DCE = 1 1 Dichloroethene/C12DCE = cis 1 2 Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation, Palm Bay, Florida.

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Intermediate Wells									
Duplicate	Dec-99	5	< 1 0	< 1.0	< 1.0	< 5.0	< 1.0	< 1 0	3.0
	Mar-00	8.8	< 1 0	< 1 0	< 1.0	< 1.0	< 1 0	< 1.0	5.7
	Oct-00	< 1.0	< 1.0	< 1 0	< 1 0	< 5.0	< 1.0	< 1 0	< 1.0
	Aug-01	< 1.0	< 1 0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1 0
	May-01	8.0	< 1 0	< 1.0	< 1.0	< 5.0	< 1 0	< 1.0	2.5
	Oct-01	4.4	< 1.0	< 1.0	< 1.0	< 5.0	< 1 0	< 1.0	1.4
	Jul-02	4.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
	Nov-02	2.1	1.6	97.0	8.4	< 5.0	< 1 0	23.0	2.0
GS-31S	Dec-96	7.6	< 1 0	14	< 1.0	< 1.0	< 1 0	14	2.2
	Dec-97	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	1.9	2.2
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-99	< 1.0	1.3	38	6 3	< 2.0	< 1.0	97	4.6
	Aug-00	1.6	1.7	74	18	< 5.0	1 0	57	11
	Oct-00	1.1	1.4	68	14	< 5.0	< 1.0	77	10
Duplicate	Oct-00	1.0	1.0	80	16	< 5.0	1.0	88	8
	Oct-01	2.8	1.3	35	11	< 5.0	< 1.0	21	4.4
	Nov-02	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1 0
GS-32S	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Dec-96	< 1.0	< 1.0	8.9	< 1.0	< 1.0	< 1.0	7.3	< 1 0
	Dec-97	< 1.0	< 1.0	3.0	< 1.0	< 1.0	< 1.0	7.6	< 1 0
	Dec-98	< 1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	7.6	< 1 0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	5.5	< 1.0
	Oct-00	< 1.0	< 1 0	4.2	< 1.0	< 5.0	< 1.0	23	< 1.0
	Oct-01	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1 0	< 1.0	< 1 0
	Nov-02	7.4	< 1.0	66	< 1 0	< 5.0	27	110	53
GS-33S	Nov-95	< 0.62	< 0.92	< 0.82	< 0 81	< 0.85	< 0.66	< 0.92	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GS-34S	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GS-35S	Nov-95	11	< 0.92	1.8	2.1	< 0.85	< 0.66	< 0.92	34
	Dec-96	13	< 1.0	< 1.0	3 1	< 1.0	< 1.0	< 1.0	32
	Dec-97	22	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	17
	Dec-98	25	< 1.0	2.7	< 1.0	< 1.0	< 1.0	4.4	70
	Dec-99	4.9	2.2	1.3	< 1.0	< 2.0	< 1 0	12	< 1 0
	Oct-00	21	< 1.0	1.9	< 1.0	< 5.0	< 1.0	3.3	64
	Oct-01	8.5	2.2	3.6	< 1.0	< 5.0	< 1.0	8.4	14.0
	Nov-02	< 1.0	< 1.0	1.5	< 1.0	< 5.0	< 1.0	< 1.0	31.0
GS-36S	Nov-95	< 0.62	< 0.92	4.4	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Dec-96	< 1.0	< 1.0	13	< 1.0	< 1.0	< 1.0	2.3	< 1.0
	Dec-97	< 1.0	< 1.0	2.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GS-38S	Nov-95	< 0.62	< 0.92	1.4	< 0.81	< 0.85	< 0.66	< 0.92	< 0 9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GS-39S	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1 0	< 1.0	< 1 0	1.2	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0	< 1.0	< 1 0	< 1.0
GS-40S	Nov-95	< 0.62	3.3	1.3	< 0.81	< 0.85	< 0.66	< 0.92	< 0 9

All constituents reported in micrograms per liter (µg/L).

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12DCB = 1,2-Dichlorobenzene/11DCE = 1 1-Dichloroethene/C12DCE = cis-1,2-Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation, Palm Bay, Florida.

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Intermediate Wells									
GS-42S	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	1.2	1.2	< 1.0	< 1.0	< 1.0	1.0	< 1.0
GS-43S	Nov-95	0.80	< 0.92	38	1.0	< 0.85	60	170	33
	Dec-96	1.4	3.1	28	1.0	< 1.0	59	180	20
	Dec-97	< 10	< 10	24	< 10	< 10	76	180	18
	Dec-98	11	< 1.0	15	< 1.0	< 1.0	68	150	24
	Dec-99	2.0	2.7	16	< 1.0	< 2.0	72	130	18
	Oct-01	< 1.0	< 1.0	7.1	< 1.0	< 5.0	52	64	5.7
	Nov-02	< 1.0	1.2	73.0	< 1.0	< 5.0	110	100	41.0
GS-44S	Feb-95	15.9	< 0.92	61.3	19.2	< 0.85	< 0.66	236	6.7
	Jun-95	16.9	0.96	67.8	15.8	< 0.85	< 0.66	166	5.9
	Nov-95	20	< 0.92	93	13	< 0.85	< 0.66	190	8.0
	Jun-96	19	2.0	55	12	< 1.0	< 1.0	98	7.0
Duplicate	Jun-96	22	< 1.0	54	9.9	< 1.0	1.0	82	5.8
	Dec-96	< 1.0	4.0	370	< 1.0	< 1.0	< 1.0	130	36
	Dec-97	24	< 5.0	38	12.0	< 5.0	< 5.0	130	< 5.0
	Jun-98	29	< 2.5	25	9.8	< 2.5	< 2.5	59	4.1
	Dec-98	20	< 2.5	15	7.6	< 2.5	< 2.5	78	13
	Dec-99	20	< 1.0	4.2	1.3	< 2.0	< 1.0	< 1.0	1.10
	Oct-00	24	< 1.0	16	4.0	< 5.0	< 1.0	55	4.8
	Oct-01	24	< 1.0	10	3.0	< 5.0	< 1.0	44.0	3.6
Duplicate	Oct-01	29	< 7.0	15	4.0	< 5.0	1.0	62.0	5.0
	Nov-02	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
GS-49S	Oct-00	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
	Oct-01	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
	Nov-02	< 1.0	< 1.0	1	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
GS-50S	Nov-95	26	20	340	46	< 0.85	84	230	320
Duplicate	Nov-95	20	20	300	41	< 0.85	74	220	300
	Dec-96	22	11	240	47	< 1.0	73	250	140
	Dec-97	51	< 25	210	78	< 25	190	430	120
	Dec-98	110	15	170	90	< 5.0	160	340	170
	Dec-99	64	18	240	120	< 20	250	580	260
	Oct-00	35	13	200	45	< 10	79	200	180
	Oct-01	6.4	13	140	19	< 5.0	40	130	88
	Nov-02	< 1.0	< 1.0	15	< 1.0	< 5.0	< 1.0	2.8	6
GS-52S	Feb-95	< 0.62	< 0.92	2.1	< 0.81	< 0.85	2.4	1.6	< 0.9
	Jun-95	< 0.62	1.4	2.7	< 0.81	< 0.85	4.0	2.7	< 0.9
	Nov-95	< 0.62	< 0.92	2.5	< 0.81	< 0.85	2.0	1.8	< 0.9
	Jun-96	< 1.0	< 1.0	4.0	< 1.0	< 1.0	1.0	2.0	< 1.0
	Sep-96	< 1.0	< 1.0	3.0	< 1.0	< 1.0	2.0	2.0	< 1.0
	Dec-96	< 1.0	< 1.0	3.5	< 1.0	< 1.0	3.0	3.0	< 1.0
	Mar-97	< 1.0	< 1.0	3.4	< 1.0	< 1.0	2.6	2.9	< 1.0
	Jun-97	< 1.0	< 1.0	3.8	NS	< 1.0	2.9	3.0	1.0
	Dec-97	< 1.0	2.5	2.6	< 1.0	< 1.0	6.0	2.5	< 1.0
	Jun-98	< 1.0	< 1.0	1.5	< 1.0	< 1.0	1.6	1.5	< 1.0
	Dec-98	< 1.0	< 1.0	2.6	< 1.0	< 1.0	2.4	2.8	< 1.0
	Jun-99	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Sep-99	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0

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Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Intermediate_Wells									
	Aug-00	< 1 0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	1 0	< 1.0
	Oct-00	< 1 0	< 1 0	< 1 0	< 1.0	< 5.0	< 1.0	1.0	< 1.0
GS-53S	Feb-95	1.4	0.99	8.2	< 0.81	< 0 85	**14.8**	**5.0**	< 0 9
	Jun-95	1.0	< 0.92	5.8	< 0.81	< 0.85	**5.0**	2.2	< 0.9
	Nov-95	0 94	< 0.92	4 9	< 0.81	< 0.85	2.8	1 6	< 0.9
	Jun-96	2.0	5.0	10	< 1.0	< 1.0	2 0	3.0	< 1.0
	Sep-96	< 1.0	3.0	6 0	< 1.0	< 1.0	2.0	2.0	< 1.0
	Dec-96	1.2	2.9	7.9	< 1 0	< 1.0	**4.2**	2 3	< 1 0
	Mar-97	1.8	3.2	11	< 1.0	< 1 0	**5.3**	**4.0**	< 1 0
	Jun-97	1.0	2.7	6.0	< 1.0	< 1 0	**3.1**	2 0	< 1 0
	Sep-97	2.5	2.9	11	< 1.0	< 1.0	**5.2**	**3.6**	< 1.0
	Dec-97	< 1 0	2.5	2.5	< 1 0	< 1.0	**6.0**	2.7	< 1.0
	Mar-98	1.0	2.2	6.8	< 1 0	< 1.0	**3.1**	2 6	< 1.0
	Jun-98	1.1	< 1.0	2 5	< 1 0	< 1.0	< 1.0	1.4	< 1 0
	Sep-98	1.8	1.7	9 2	< 1.0	< 1 0	**4.1**	**3.2**	< 1 0
	Dec-98	2.6	1.5	9 3	< 1.0	< 1.0	**6.0**	**4.7**	< 1 0
	Mar-99	1.9	1.3	7 8	< 1.0	< 1.0	**5.2**	**3.5**	< 1 0
	Jun-99	2.4	2.4	7.7	< 1.0	< 1 0	**4.1**	**3.7**	< 1.0
	Sep-99	1.7	2.5	6.8	< 1.0	< 1.0	**3.9**	**3.6**	< 1.0
	Dec-99	2.6	3.5	7.3	< 1.0	< 2.0	**7.8**	**5.5**	**1.8**
Duplicate	Dec-99	2.0	3.0	9.0	< 1.0	< 5.0	**8.0**	**6.0**	< 1.0
	Mar-00	< 1.0	3.1	7.6	< 1 0	< 1.0	**8.8**	< 1 0	< 1 0
	Aug-00	< 1.0	3.5	2.6	< 1.0	< 5.0	**5.7**	1.5	< 1.0
	Oct-00	1.1	3 2	2.1	< 1 0	< 5.0	**3.3**	1 1	< 1 0
	Oct-01	< 1 0	2.6	2.3	< 1.0	< 5 0	**14.0**	**3.3**	< 1 0
	Nov-02	< 1.0	< 1 0	2.3	< 1.0	< 5.0	**25.0**	**1.7**	< 1 0
GS-54S	Feb-95	< 0.62	< 0.92	2.4	< 0.81	< 0.85	< 0.66	0 96	< 0 9
	Jun-95	< 0.62	< 0.92	0.96	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Nov-95	< 0.62	< 0.92	1.5	< 0.81	< 0.85	< 0.66	< 0.92	< 0 9
	Dec-96	< 1.0	< 1.0	3.3	< 1.0	< 1.0	2.4	3.0	< 1.0
	Jun-97	< 1 0	< 1.0	3.6	< 1.0	< 1.0	2.3	**3.5**	1 0
	Dec-97	< 1.0	2.6	2.6	< 1.0	< 1.0	**6.4**	**3.2**	< 1.0
	Dec-98	< 1.0	< 1 0	1.5	< 1.0	< 1.0	< 1.0	2 4	< 1 0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	1 7	< 1 0
	Oct-00	< 1 0	< 1.0	4.6	< 1 0	< 5 0	< 1.0	< 1.0	< 1 0
GS-121S	Dec-96	< 1.0	< 1 0	< 1 0	< 1.0	< 1.0	< 1 0	< 1 0	< 1 0
GS-122S	Nov-95	< 0 62	< 0.92	< 0 82	< 0.81	< 0.85	< 0.66	1.2	< 0 9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0	**3.7**	< 1 0
	Dec-97	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1 0	**3.1**	< 1.0
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	< 1.0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	1.7	< 1.0
	Oct-00	< 1.0	< 1.0	1.1	< 1.0	< 5.0	< 1.0	2.0	**1.6**
	Oct-01	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
	Nov-02	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
GS-123S	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	**4.5**	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0	< 1.0	< 1.0
	Oct-00	< 1.0	< 1.0	< 1.0	< 1 0	< 5.0	< 1 0	1.3	< 1.0
	Oct-01	< 1.0	< 1.0	< 1.0	< 1 0	< 5.0	< 1.0	< 1.0	< 1.0
	Nov-02	< 1 0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1 0	< 1 0

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal.

12DCB = 1,2-Dichlorobenzene/11DCE = 1,1-Dichloroethene/C12DCE = cis-1,2-Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation, Palm Bay, Florida.

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Intermediate Wells									
GS-124S	Dec-96	< 1.0	< 1.0	4 0	< 1.0	< 1.0	< 1.0	2.4	< 1.0
	Dec-97	< 1.0	< 1.0	1.6	< 1 0	< 1 0	< 1.0	< 1.0	< 1 0
GS-125S	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0 92	< 0 9
	Dec-96	< 1.0	< 1.0	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
	Dec-97	< 1.0	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
GS-127S	Nov-95	< 0.62	< 0.92	< 0 82	< 0.81	< 0 85	< 0 66	< 0.92	< 0 9
Duplicate	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0 85	< 0 66	< 0 92	< 0.9
	Dec-96	< 1.0	< 1.0	< 1 0	< 1.0	< 1.0	< 1.0	< 1 0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0	< 1.0	< 1.0	< 1.0
GS-131S	Nov-95	1.1	< 0.92	11	< 0.81	< 0.85	< 0.66	5.0	37
	Dec-96	< 1 0	< 1.0	8.1	< 1 0	< 1.0	< 1 0	6.3	14
	Jun-97	< 1.0	< 1.0	7.3	NS	< 1.0	< 1.0	5.6	8.4
	Dec-97	< 1.0	< 1.0	6 6	< 1 0	< 1.0	< 1.0	4.3	5.3
	Jun-98	< 1.0	< 1 0	5 0	< 1.0	< 1.0	< 1.0	3.6	2.8
	Sep-98	< 1.0	< 1 0	5.2	< 1 0	< 1 0	< 1.0	3.1	3.8
	Dec-98	< 1.0	< 1 0	4.3	< 1.0	< 1.0	< 1 0	3.7	3.3
	Mar-99	< 1 0	< 1.0	4.4	< 1 0	< 1.0	< 1.0	3.2	3.0
	Jun-99	< 1.0	< 1.0	4.6	< 1 0	< 1.0	< 1.0	2.9	< 1.0
	Sep-99	< 1.0	< 1.0	2.2	< 1 0	< 1.0	< 1.0	1.8	< 1.0
	Dec-99	< 1.0	< 1.0	2.1	< 1.0	< 2.0	< 1.0	2.6	< 1.0
	Aug-00	< 1.0	< 1 0	5.2	< 1.0	< 5.0	< 1.0	2.2	1.4
	Oct-00	< 1.0	< 1.0	2.8	< 1.0	< 5.0	< 1.0	1.3	< 1 0
	Oct-01	< 1.0	< 1.0	< 1 0	< 1.0	< 5.0	< 1 0	< 1 0	< 1.0
	Nov-02	< 1.0	< 1.0	< 1.0	< 1 0	< 5.0	< 1.0	< 1.0	< 1.0
GS-140S	Dec-96	< 1.0	1.4	3.5	< 1.0	< 1.0	< 1.0	7.0	8.4
	Dec-97	< 12	< 12	18	< 12	< 12	< 12	< 12	< 12
	Dec-98	< 10	< 10	11	< 10	< 10	< 10	13	41
	Dec-99	< 5.0	2.8	6.0	1.6	< 2.0	1.4	13	9.9
	Oct-00	4.6	< 1 0	1.8	3.4	< 5.0	< 1.0	< 1.0	6.2
	Oct-01	< 1.0	< 1.0	1.1	< 1.0	< 5.0	< 1.0	< 1.0	1.6
	Nov-02	< 1.0	< 1.0	5.6	< 1.0	< 1.0	< 1.0	1 7	8.8
GS-141S	Nov-95	3.9	< 0.92	15	< 0 81	< 0.85	6.6	47	16
	Dec-96	1.2	< 1.0	3.7	< 1.0	< 1.0	2.6	30	4.0
	Dec-97	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2 0	< 2 0
	Dec-98	< 1.0	< 1.0	8.1	< 1.0	< 1 0	1.4	12	9.4
	Dec-99	15	3 6	29	< 2.0	< 4 0	14	180	11
Duplicate	Dec-99	14	3.0	54	< 1.0	< 5.0	16	180	18
	Oct-00	15	2.2	32	< 1.0	< 5.0	13	140	13
Duplicate	Oct-00	< 1.0	3.0	42	< 1.0	< 5.0	15	160	12
	Oct-01	9.3	< 1.0	19	< 1.0	< 5.0	9.2	66	3.6
	Nov-02	< 1.0	< 1.0	1.7	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
GS-301S	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0	< 1.0	< 1.0	< 1.0
Deep Wells									
GS-4D	Nov-95	0.75	< 0.92	4.5	< 0.81	< 0.85	< 0.66	1.0	< 0.9
Duplicate	Nov-95	0.67	< 0.92	4.5	< 0.81	< 0.85	< 0.66	0.94	< 0 9
GS-5D	Nov-95	7.6	< 0.92	5.7	< 0.81	< 0.85	< 0.66	< 0.92	1.9
	Dec-96	9.3	< 1.0	6.7	< 1.0	< 1 0	< 1 0	< 1.0	1.4
	Dec-97	5.3	< 1.0	2.9	< 1 0	< 1.0	< 1.0	< 1 0	< 1.0
GS-6D	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Duplicate	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0	< 1.0
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	3.2

All constituents reported in micrograms per liter (µg/L).

Shaded areas represent concentration exceeded remedial goal.

12DCB = 1,2-Dichlorobenzene/11DCE = 1,1-Dichloroethene/C12DCE = cis-1,2-Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation, Palm Bay, Florida

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Deep Wells									
	Dec-99	3 0	< 1 0	1 3	< 1 0	< 2 0	< 1 0	< 1 0	**2.7**
	Oct-00	2 1	< 1 0	1 5	< 1 0	< 5 0	< 1 0	< 1 0	**4.0**
	Nov-01	2 8	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	**1 8**
	Nov 02	< 1 0	< 1 0	1 5	< 1 0	< 5 0	< 1 0	< 1 0	**2.1**
GS-7D	Nov 95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS 10D	Nov 95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec 96	< 1 0	< 1 0	1 1	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-11D	Dec-96	7 9	< 1 0	2 4	< 1 0	< 1 0	< 1 0	< 1 0	**9.2**
GS 12D	Dec-96	3 9	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	**1 8**
	Dec-97	5 2	**8 3**	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-98	4 5	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	**5.1**
	Dec-99	5 5	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	**5.4**
	Oct-01	2 2	< 1 0	1 3	< 1 0	< 5 0	< 1 0	1 1	**3 2**
	Nov-02	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	**5.0**
GS 16D	Dec-96	< 1 0	< 1 0	1 1	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-17D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
Duplicate	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec 96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-34D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
GS 35D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	**4.0**	< 0 9
Duplicate	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	**4.1**	< 0 9
	Dec-96	< 1 0	< 1 0	1 9	< 1 0	< 1 0	< 1 0	**5.8**	< 1 0
	Dec-97	< 1 0	< 1 0	1 5	< 1 0	< 1 0	< 1 0	1 6	**1.5**
	Dec-98	< 1 0	< 1 0	1 7	< 1 0	< 1 0	< 1 0	**3.6-**	< 1 0
	Dec 99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	**3.3**
	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	**3.7**
	Oct 01	5 8	< 1 0	1 4	< 1 0	< 5 0	< 1 0	< 1 0	**3.7**
Duplicate	Oct-01	< 10	< 7 0	2 0	< 15	< 5 0	< 3 0	< 3 0	< 1 0
	Nov 02	**27.0**	< 1 0	1 6	< 1 0	< 5 0	< 1 0	< 1 0	**32 0**
GS-36D	Dec 96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-38D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-39D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-41D	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 97	1 2	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-98	**23**	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	1 2	**4.4**
	Dec-99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	**2.1**
	Oct-01	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
	Nov 02	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
GS-42D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec 96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal

12DCB = 1 2 Dichlorobenzene/11DCE = 1 1-Dichloroethene/C12DCE = cis 1 2 Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation, Palm Bay, Florida.

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Deep_Wells									
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GS-43D	Nov-95	1.1	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
Duplicate	Nov-95	1.3	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Jun-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Duplicate	Jun-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Sep-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Duplicate	Sep-96	< 1.0	< 1.0	3.0	< 1.0	< 1.0	2.0	2.0	< 1.0
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**1.7**
	Mar-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**2.0**
	Jun-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**2.7**
	Sep-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**4.3**
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**1.8**
	Mar-98	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**4.6**
	Jun-98	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**6.3**
	Sep-98	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**11**
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**8.9**
	Mar-99	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**9.2**
	Jun-99	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**5.1**
	Sep-99	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	1.8	**6.1**
	Mar-00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**4.8**
	Jun-00	< 1.0	< 1.0	< 1.0	< 1.0	10.0	< 1.0	< 1.0	< 1.0
	Aug-00	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	1.0	< 1.0
	May-01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**28.0**
	Aug-01	1.6	< 1.0	2.0	< 1.0	< 5.0	< 1.0	2.5	**28.0**
	Oct-01	3.2	< 1.0	1.5	< 1.0	< 5.0	< 1.0	2.2	**14.0**
	Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
	Nov-02	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0
GS-48D	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
GS-50D	Nov-95	87	4.8	60	34	< 0.85	55	58	360
Duplicate	Nov-95	86	4.9	57	32	< 0.85	55	62	350
	Dec-96	62	1.9	25	31	< 1.0	40	25	210
	Dec-97	80 J	< 4.0	16 J	27 J	< 4.0	< 4.0	14 J	140 J
	Dec-98	< 100	< 100	< 100	< 100	< 100	< 100	< 100	180
	Dec-99	95	< 2.0	6.8	25	< 4.0	5.7	7.0	160
	Oct-00	91	< 1.0	1.9	18	< 5.0	< 1.0	1.7	99
	Oct-01	79	< 1.0	2.3	7.2	< 5.0	< 1.0	2.7	54.0
	Nov-02	630	< 10	< 10	< 10	< 50	< 10	< 10	< 10
GS-122D	Nov-95	< 0.62	< 0.92	< 0.82	< 0.81	< 0.85	< 0.66	< 0.92	< 0.9
	Dec-96	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	1.1	< 1.0
	Dec-97	< 1.0	< 1.0	2.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GS-123D	Feb-95	< 0.62	< 0.92	< 0.82	< 0.81	NA	< 0.66	< 0.92	**16.1**
	Nov-95	< 0.62	< 0.92	0.97	< 0.81	< 0.85	< 0.66	< 0.92	**7.6**
	Jun-96	< 1.0	2.0	2.0	< 1.0	< 1.0	< 1.0	< 1.0	**5.0**
	Sep-96	< 1.0	1.0	2.0	< 1.0	< 1.0	< 1.0	< 1.0	**3.0**
	Dec-96	< 1.0	< 1.0	2.8	< 1.0	< 1.0	< 1.0	1.0	**2.5**
	Mar-97	< 1.0	1.2	3.8	< 1.0	< 1.0	< 1.0	1.2	**2.4**
	Jun-97	< 1.0	< 1.0	5.5	< 1.0	< 1.0	< 1.0	1.4	**2.1**
	Sep-97	< 1.0	1.1	8.6	< 1.0	< 1.0	< 1.0	1.6	**2.4**
	Dec-97	< 1.0	< 1.0	15	< 1.0	< 1.0	< 1.0	1.4	**1.9**
Duplicate	Dec-97	< 1.0	< 1.0	23	< 1.0	< 1.0	< 1.0	2.0	< 1.0

All constituents reported in micrograms per liter (µg/L).

Shaded areas represent concentration exceeded remedial goal.

12DCB = 1,2-Dichlorobenzene/11DCE = 1,1-Dichloroethene/C12DCE = cis-1,2-Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation, Palm Bay, Florida

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Deep Wells									
	Mar-98	< 1 0	1 1	7 2	< 1 0	< 1 0	< 1 0	1 2	2 3
	Jun-98	< 1 0	< 1 0	10	< 1 0	< 1 0	< 1 0	1 2	< 1 0
	Sep-98	< 1 0	< 1 0	13	< 1 0	< 1 0	< 1 0	1 2	4 8
	Dec 98	< 1 0	1 1	6 4	< 1 0	< 1 0	< 1 0	8.9	1.7
	Mar 99	< 1 0	< 1 0	9 2	< 1 0	< 1 0	< 1 0	2 4	1.4
	Jun-99	3 0	< 1 0	2 1	< 1 0	1 1	< 1 0	< 1 0	5.0
	Sep-99	< 1 0	< 1 0	13	< 1 0	< 1 0	< 1 0	1 5	< 1
	Dec 99	< 1 0	1 2	7 2	< 1 0	< 2 0	< 1 0	1 4	< 1 0
	Mar-00	< 1 0	< 1 0	13	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Jun-00	< 1 0	< 1 0	23	< 1 0	< 1 0	< 1 0	1 2	2.6
	Aug-00	< 1 0	< 1 0	18	< 1 0	< 5 0	< 1 0	9.9	1.7
	Oct-00	< 1 0	< 1 0	16	< 1 0	< 5 0	< 1 0	< 1 0	1.7
	Oct-01	< 1 0	< 1 0	14 0	< 1 0	< 5 0	< 1 0	< 1 0	1.7
	Nov-02	< 1 0	< 1 0	8 4	< 1 0	< 5 0	< 1 0	< 1 0	8 9
GS-124D	Nov-95	< 0 62	< 0 92	2 6	< 0 81	< 0 85	< 0 66	< 0 92	25
	Jun 96	< 1 0	< 1 0	5 0	< 1 0	< 1 0	< 1 0	< 1 0	8.0
	Sep-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	4.0	2.0
Duplicate	Sep 96	< 1 0	< 1 0	5 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-96	< 1 0	< 1 0	6 7	< 1 0	< 1 0	< 1 0	1 2	8.7
	Mar-97	< 1 0	< 1 0	7 8	< 1 0	< 1 0	< 1 0	1 2	9.5
	Jun-97	< 1 0	< 1 0	8 3	< 1 0	< 1 0	< 1 0	1 1	12
	Sep-97	< 1 0	< 1 0	8 4	< 1 0	< 1 0	< 1 0	< 1 0	14
	Dec-97	< 1 0	< 1 0	6 2	< 1 0	< 1 0	< 1 0	< 1 0	15
	Mar-98	< 1 0	< 1 0	7 2	< 1 0	< 1 0	< 1 0	< 1 0	11
	Jun-98	1 1	< 1 0	4 0	< 1 0	< 1 0	< 1 0	< 1 0	10
	Sep-98	< 1 0	< 1 0	8 7	< 1 0	< 1 0	< 1 0	< 1 0	12
	Dec-98	< 1 0	< 1 0	6 4	< 1 0	< 1 0	< 1 0	< 1 0	8.7
	Mar-99	< 1 0	< 1 0	7 4	< 1 0	< 1 0	< 1 0	1 1	12
	Jun-99	< 1 0	< 1 0	12	< 1 0	< 1 0	< 1 0	1 2	7.0
	Sep-99	< 1 0	< 1 0	5 6	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-99	< 1 0	< 1 0	6 4	< 1 0	< 2 0	< 1 0	1 7	4.9
	Mar-00	< 1 0	< 1 0	7 5	< 1 0	< 1 0	< 1 0	< 1 0	5.9
	Jun-00	< 1 0	< 1 0	3 6	< 1 0	< 1 0	< 1 0	< 1 0	8.8
	Aug-00	< 1 0	< 1 0	4 6	< 1 0	< 5 0	< 1 0	7.3	7.1
	Oct-00	< 1 0	< 1 0	3 6	< 1 0	< 5 0	< 1 0	< 1 0	5.1
	Oct-01	< 1 0	< 1 0	4 2	< 1 0	< 1 0	< 1 0	< 1 0	2.8
	Nov-02	< 1 0	< 1 0	4 9	< 1 0	< 5 0	< 1 0	< 1 0	1.4
GS 125D	Nov-95	0 99	< 0 92	1 1	< 0 81	< 0 85	< 0 66	< 0 92	9.1
	Dec-96	1 9	< 1 0	1 8	< 1 0	< 1 0	< 1 0	< 1 0	5.0
	Mar-97	2 3	< 1 0	1 6	< 1 0	< 1 0	< 1 0	< 1 0	5.6
	Jun-97	2 4	< 1 0	1 6	< 1 0	< 1 0	< 1 0	< 1 0	5.0
	Sep-97	2 5	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	6.2
	Dec-97	< 1 0	2 6	2 8	< 1 0	< 1 0	3.1	4.2	< 1 0
	Mar 98	2 6	< 1 0	1 6	< 1 0	< 1 0	< 1 0	< 1 0	4.1
	Jun-98	4 1	< 1 0	1 2	< 1 0	< 1 0	< 1 0	< 1 0	3.6
	Sep-98	3 1	< 1 0	1 8	< 1 0	< 1 0	< 1 0	< 1 0	6.4
	Dec-98	3 0	< 1 0	1 4	< 1 0	< 1 0	< 1 0	< 1 0	5.8
	Mar-99	3 0	< 1 0	1 5	< 1 0	< 1 0	< 1 0	< 1 0	7.1
	Jun-99	< 1 0	1 3	15	< 1 0	< 1 0	< 1 0	1 9	< 1 0
	Sep-99	3 2	< 1 0	1 2	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-99	3 4	< 1 0	1 6	< 1 0	< 2 0	< 1 0	1 4	3.8
	Mar-00	< 1 0	< 1 0	2 0	< 1 0	< 1 0	< 1 0	< 1 0	6.6

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal

12DCB = 1 2 Dichlorobenzene/11DCE = 1 1 Dichloroethene/C12DCE = cis-1 2-Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of Groundwater Sampling Data for Constituents of Concern at OU1, Harris Corporation Palm Bay, Florida

Well	Date (Goal)	12DCB (10 ug/L)	11DCE (7 ug/l)	C12DCE (70 ug/l)	EB (15 ug/l)	MC (5 ug/l)	PCE (3 ug/l)	TCE (3 ug/l)	VC (1 ug/l)
Deep Wells									
	Jun 00	2 6	< 1 0	2 3	< 1 0	< 1 0	< 1 0	1 1	10
	Aug-00	3 4	< 1 0	2 2	< 1 0	< 5 0	< 1 0	1 2	9 0
	Oct-00	3 2	< 1 0	1 8	< 1 0	< 5 0	< 1 0	< 1 0	8 4
	Oct-01	2 3	< 1 0	2 6	< 1 0	< 5 0	< 1 0	1 1	8 3
Duplicate	Oct-01	3 0	< 7 0	4 0	< 15	< 5 0	< 3 0	1 0	9 0
	Nov 02	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	1.1
GS 126D	Nov-95	< 0 62	< 0 92	1 7	< 0 81	< 0 85	< 0 66	< 0 92	2.6
	Dec 96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS 127D	Nov-95	1 1	< 0 92	< 0 82	1 0	< 0 85	< 0 66	< 0 92	49
	Jun-96	1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	43
	Sep-96	2 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	25
	Dec-96	1 8	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	30
	Mar-97	1 6	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	28
	Jun-97	1 4	< 1 0	< 1 0	NS	< 1 0	< 1 0	< 1 0	12
	Dec-97	1 5	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	10
	Jun-98	2 6	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	5.0
	Sep-98	1 8	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	10
	Dec-98	1 3	< 1 0	1 0	< 1 0	< 1 0	< 1 0	< 1 0	10
	Mar 99	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	9 0
	Jun-99	< 1 0	< 1 0	1 2	< 1 0	< 1 0	< 1 0	< 1 0	4 0
	Sep-99	< 1 0	< 1 0	1 1	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-99	< 1 0	< 1 0	1 1	< 1 0	< 2 0	< 1 0	< 1 0	4.2
	Mar-00	< 1 0	< 1 0	1 4	< 1 0	< 1 0	< 1 0	< 1 0	7.1
	Aug-00	< 1 0	< 1 0	1 5	< 1 0	< 5 0	< 1 0	< 1 0	8.5
	Oct-00	< 1 0	< 1 0	1 5	< 1 0	< 5 0	< 1 0	< 1 0	7.4
	Oct 01	1 0	< 1 0	2 0	< 1 0	< 5 0	< 1 0	< 1 0	3.2
	Nov-02	< 1 0	< 1 0	2 7	< 1 0	< 5 0	< 1 0	< 1 0	2 8
GS-130D	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Duplicate	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
GS-131D	Nov 95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
PR-7D	Nov-95	0 86	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
PR-8D	Nov-95	0 85	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Dec 96	1 7	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
PR-14D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	< 0 9
	Oct-00	< 1 0	< 1 0	4 9	< 1 0	< 5 0	< 1 0	< 1 0	< 1 0
PBUC-84-2D	Nov-95	< 0 62	< 0 92	< 0 82	< 0 81	< 0 85	< 0 66	< 0 92	50
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	5.5
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	29
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0	18
	Dec-99	< 1 0	< 1 0	< 1 0	< 1 0	< 2 0	< 1 0	< 1 0	11
	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	7.8
	Nov-01	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	3.6
	Nov-02	< 1 0	< 1 0	< 1 0	< 1 0	< 5 0	< 1 0	< 1 0	2.2

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal

12DCB = 1 2 Dichlorobenzene/11DCE = 1 1 Dichloroethene/C12DCE = cis 1 2 Dichloroethene/EB = Ethyl benzene/MC = Methylene Chloride/ PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

Summary of VOC Data for Constituents of Concern at OU2, Harris Corporation, Palm Bay, Florida.

Well	Date	Tetrachloroethene (Goal = 3 µg/L)	Trichloroethene (Goal = 3 µg/L)	*cis*-1,2-Dichloroethene (Goal = 70 µg/L)	Vinyl Chloride (Goal = 1 µg/L)
Shallow Wells					
SC-TS4*	Jan-95	< 0.66	< 0.92	< 0.82	< 0.9
	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
	Dec-97	< 1.0	< 1.0	< 1 0	< 1.0
SC-TS6*	Jan-95	< 0.66	< 0.92	< 0.82	< 0.9
	Nov-95	< 0 66	< 0 92	1.2	< 0.9
	Dec-96	< 1.0	< 1.0	3.4	< 1 0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
SC-TS9*	Jan-95	< 0.66	< 0.92	0.84	< 0.9
	Jun-95	< 0.66	< 0.92	< 0.82	< 0.9
	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1 0
SC-TS10	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
SC-TS12	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
SC-TS13*	Jan-95	< 0.66	< 0.92	< 0.82	< 0.9
	Jun-95	< 0.66	< 0.92	2.0	< 0.9
	Nov-95	< 0.66	1.5	3.2	< 0.9
Duplicate	Nov-95	< 0.66	1.3	3.4	< 0 9
	Dec-96	< 1.0	1.6	9 4	< 1.0
	Dec-97	< 1.0	< 1.0	< 1 0	< 1.0
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0
	Aug-00	< 1.0	< 1.0	< 1.0	< 1.0
	Oct-00	< 1.0	< 1.0	< 1.0	< 1.0
	Nov-01	< 1.0	< 1.0	< 1.0	< 1.0
	Nov-02	< 1.0	< 1.0	< 1.0	< 1.0
SC-TS14	Nov-95	< 0.66	< 0.92	210	62
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	83	77
	Dec-98	< 5.0	< 5.0	44	14
	Dec-99	< 1.0	3.0	34	7.2
Duplicate	Dec-99	< 1.0	4.0	44	10
	Oct-00	< 1.0	1.8	28	9.2
	Nov-01	< 1.0	1.6	29	12.0
	Nov-02	< 1.0	1.9	30	9.8

All constituents reported in micrograms per liter (µg/L).

Shaded areas represent concentration exceeded remedial goal.

* -- Indicates recovery well previously shut down after reaching cleanup goals.

J = J-Flagged or Estimated Value.

J+ = J-Flagged or Estimated Value with a potentially high bias.

Summary of VOC Data for Constituents of Concern at OU2, Harris Corporation, Palm Bay, Florida.

Well	Date	Tetrachloroethene (Goal = 3 µg/L)	Trichloroethene (Goal = 3 µg/L)	*cis*-1,2-Dichloroethene (Goal = 70 µg/L)	Vinyl Chloride (Goal = 1 µg/L)
Shallow Wells					
SC-TS15	Jan-95	< 0.66	2.6	8.3	12.8
	Jun-95	< 0.66	15.1	43.9	42.8
	Nov-95	< 0.66	1.7	4.7	4.0
	Jun-96	< 1.0	58	100	55 J
	Sep-96	< 1.0	< 1.0	99 J+	5.0 J+
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0
	Mar-97	< 1.0	71	43	18
	Jun-97	< 1.0	54	42	20
	Sep-97	< 1.0	27	37	18
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
	Mar-98	< 1.0	1.8	3.5	1.2
	Jun-98	< 1.0	2.5	< 1.0	< 1.0
	Sep-98	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-98	< 1.0	2.9	3.0	2.0
	Mar-99	< 1.0	26	13	12
	Jun-99	< 5.0	84	25	10
	Sep-99	< 1.0	34	14	< 1.0
	Dec-99	2.0	24	6.1	2.4
	Mar-00	3.0	< 1.0	47	< 1.0
	Jun-00	< 1.0	6.4	5.0	4.2
	Aug-00	< 1.0	< 1.0	< 1.0	< 1.0
	Oct-00	< 1.0	< 1.0	< 1.0	< 1.0
	Jan-01	< 1.0	< 1.0	< 1.0	< 1.0
	Apr-01	< 1.0	< 1.0	< 1.0	< 1.0
	Aug-01	< 1.0	< 1.0	< 1.0	< 1.0
	Oct-01	< 1.0	< 1.0	< 1.0	< 1.0
	Nov-02	< 1.0	< 1.0	< 1.0	< 1.0
SC-TS16*	Jan-95	< 0.66	< 0.92	< 0.82	< 0.9
	Jun-95	< 0.66	< 0.92	< 0.82	< 0.9
Duplicate	Jun-95	< 0.66	< 0.92	< 0.82	< 0.9
	Nov-95	< 0.66	< 0.92	< 1.0	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0
	Aug-00	< 1.0	< 1.0	< 1.0	< 1.0
	Oct-00	< 1.0	< 1.0	< 1.0	< 1.0
	Oct-01	< 1.0	2.1	< 1.0	< 1.0
	Nov-02	< 1.0	7.4	4.7	3.1
SC-TS17	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
SC-TS23	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
SC-TS24	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
SC-TS25	Nov-95	< 0.66	4.6	24	13
	Jun-96	< 1.0	< 1.0	8.0	11 J

All constituents reported in micrograms per liter (µg/L).

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Summary of VOC Data for Constituents of Concern at OU2, Harris Corporation, Palm Bay, Florida.

Well	Date	Tetrachloroethene (Goal = 3 µg/L)	Trichloroethene (Goal = 3 µg/L)	*cis*-1,2-Dichloroethene (Goal = 70 µg/L)	Vinyl Chloride (Goal = 1 µg/L)
Shallow Wells					
	Sep-96	< 1.0	7.0	100	6.0
	Dec-96	< 1.0	8.5	96	9.7
	Mar-97	< 1.0	71	30	18
	Jun-97	< 1.0	5.3	22	3.7
	Sep-97	< 1.0	3.0	17	3.5
	Dec-97	< 1.0	2.9	39	< 1.0
	Mar-98	< 1.0	2.6	13	2.4
	Jun-98	3.0	5.5	8.6	2.0
	Sep-98	4.0	3.0	7.2	< 1.0
	Dec-98	9.9	6.6	6.2	2.6
	Mar-99	9.0	5.1	4.5	2.2
	Jun-99	17	8.6	8.5	< 1.0
	Sep-99	7.9	3.8	7.7	< 1.0
	Dec-99	2.0	1.3	3.5	< 1.0
	Mar-00	4.1	< 1.0	3.9	< 1.0
	Jun-00	7.1	3.6	7.3	1.8
	Aug-00	< 1.0	< 1.0	3.2	3.1
	Oct-00	< 1.0	< 1.0	2.2	1.9
	Jan-01	< 1.0	1.7	6.1	2.0
	Apr-01	< 1.0	< 1.0	5.1	1.1
	Aug-01	< 1.0	< 1.0	2.1	2.4
	Oct-01	< 1.0	< 1.0	< 1.0	< 1.0
	Nov-02	< 1.0	< 1.0	< 1.0	< 1.0
SC-TS29	Nov-95	1.3	39	28	14
	Jun-96	< 1.0	5.0	11	4.0 J
	Sep-96	< 1.0	4.0 J+	6.0 J+	1.0 J+
	Dec-96	< 1.0	13	11.0	3.8
	Mar-97	1.0	20	10	4.9
	Jun-97	3.5	59	20	8.0
	Sep-97	4.6	190	79	16
	Dec-97	1.4	27	11	3.9
	Mar-98	7.5	93	28	9.1
	Jun-98	6.2	76	16	5.8
	Dec-98	6.8	83	15	9.7
	Jun-99	6.3	73	21	6.8
	Dec-99	5.0	55	12	5.0
	Aug-00	3.5	23	5.6	3.0
	Oct-00	< 1.0	6.4	6.7	2.5
	Jan-01	3.3	21.0	6.8	2.7
	Apr-01	< 1.0	1.8	3.0	1.6
	Aug-01	1.5	10.0	3.9	1.6
	Oct-01	1.2	7.3	4.3	1.1
	Nov-02	< 1.0	4.1	2.4	< 1.0
SC-TS30	Jun-95	< 0.66	139	426	74.9
	Nov-95	< 0.66	28	18	2.7

All constituents reported in micrograms per liter (µg/L).

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J = J-Flagged or Estimated Value.

J+ = J-Flagged or Estimated Value with a potentially high bias.

Summary of VOC Data for Constituents of Concern at OU2, Harris Corporation, Palm Bay, Florida

Well	Date	Tetrachloroethene (Goal = 3 µg/L)	Trichloroethene (Goal = 3 µg/L)	*cis* 1,2-Dichloroethene (Goal = 70 µg/L)	Vinyl Chloride (Goal = 1 µg/L)
Shallow Wells					
Duplicate	Nov 95	< 0 66	**28**	17	**2 9**
	Jun 96	< 1 0	**130**	**350**	**33**
	Sep 96	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 96	< 1 0	**130**	**180**	**18**
Duplicate	Dec 96	< 1 0	**120**	**170**	**21**
	Mar 97	< 1 0	**140**	**230**	**26**
	Jun 97	< 2 5	**76**	**79**	**9 6**
	Dec 97	< 1 0	**45**	22	< 1 0
	Jun 98	< 2 5	**36**	64	**7 8**
	Dec 98	< 2 0	**31**	41	**8 9**
	Jun 99	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 99	< 1 0	**6 7**	3 5	< 1 0
	Aug 00	< 1 0	< 1 0	< 1 0	< 1 0
	Oct 00	< 1 0	< 1 0	< 1 0	< 1 0
	Jan 01	< 1 0	1 3	2 2	**2 0**
	Apr 01	< 1 0	< 1 0	< 1 0	< 1 0
	Aug 01	< 1 0	< 1 0	< 1 0	< 1 0
	Oct-01	< 1 0	< 1 0	< 1 0	< 1 0
	Nov 02	< 1 0	< 1 0	< 1 0	< 1 0
SC TS31	Nov 95	< 0 66	**120**	14	< 0 9
	Jun 96	< 1 0	**40**	**390**	**61 0 J**
	Sep 96	< 1 0	**36 0 J**	**77 0 J**	**12 0 J**
	Dec 96	< 1 0	**16**	**140**	**35**
	Mar 97	< 2 0	**28**	**130**	**38**
	Jun 97	< 1 0	**36**	27	**9 2**
	Dec 97	< 1 0	**3 8**	32	**13**
	Jun 98	< 2 0	**15**	47	**2 5**
	Dec 98	< 1 0	**22**	26	**4 1**
	Jun 99	< 1 0	**54**	39	**14 0**
	Dec 99	< 1 0	**6 5**	3 5	< 1 0
	Aug 00	< 1 0	**7 7**	9 0	< 1 0
	Oct 00	< 1 0	2 3	4 2	< 1 0
Duplicate	Oct 00	< 1 0	3 0	5 0	< 1 0
	Nov 02	< 1 0	2 2	3 6	< 1 0
SC TS32*	Oct 93	1 2	**5 6**	12 9	**2 2**
	Oct 94	< 0 66	2 0	3 9	< 0 9
	Jan 95	< 0 66	2 3	6 4	**1 7**
	Jun 95	< 0 66	1 7	11 5	< 0 9
	Nov 95	< 0 66	< 0 92	1 7	< 0 9
	Jun 96	< 1 0	2 0	11	< 1 0
	Sep 96	< 1 0	1 0 J+	3 0 J+	< 1 0
	Dec 96	< 1 0	1 9	4 1	< 1 0
	Mar 97	< 1 0	2 3	5 6	< 1 0
Duplicate	Mar 97	< 1 0	1 4	3 5	< 1 0
	Dec 97	< 1 0	< 1 0	2 6	< 1 0

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal

* Indicates recovery well previously shut down after reaching cleanup goals

J = J Flagged or Estimated Value

J+ = J Flagged or Estimated Value with a potentially high bias

Summary of VOC Data for Constituents of Concern at OU2, Harris Corporation, Palm Bay, Florida.

Well	Date	Tetrachloroethene (Goal = 3 µg/L)	Trichloroethene (Goal = 3 µg/L)	*cis*-1,2-Dichloroethene (Goal = 70 µg/L)	Vinyl Chloride (Goal = 1 µg/L)
Shallow Wells					
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0
SC-TS33	Nov-95	< 6.6	13	< 8.2	< 9.0
	Dec-96	< 1.0	12	3.4	< 1.0
	Dec-97	< 1.0	14	1.9	< 1.0
	Dec-98	< 1.0	10	1.5	< 1.0
	Dec-99	< 1.0	5.7	1.0	< 1.0
	Oct-00	< 1.0	14	1.3	< 1.0
	Oct-01	< 1.0	30	1.2	< 1.0
	Dec-02	< 1.0	130	2.4	< 1.0
SC-2S	Nov-95	< 0.66	< 0.92	< 0.82	1.5
	Dec-96	< 1.0	< 1.0	< 1.0	2.1
	Dec-97	< 1.0	< 1.0	< 1.0	1.8
Duplicate	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-98	< 1.0	< 1.0	< 1.0	2.5
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0
	Oct-00	< 1.0	< 1.0	< 1.0	1.9
	Oct-01	< 1.0	< 1.0	< 1.0	1.3
	Dec-02	< 1.0	< 1.0	< 1.0	< 1.0
SC-3S	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
Intermediate Wells					
SC-6S	Nov-95	< 0.66	1.9	< 0.82	< 0.9
	Dec-96	< 1.0	3.7	2.2	< 1.0
	Dec-97	< 1.0	3.2 J	1.1 J	< 1.0
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-99	< 1.0	1.6	< 1.0	< 1.0
Duplicate	Dec-99	< 1.0	2.0	1.0	< 1.0
	Oct-00	< 1.0	2.5	1.2	< 1.0
SC-7S	Nov-95	< 0.66	100	23	9.5
	Dec-96	< 1.0	520	29	9
	Dec-97	< 1.0	72	2.4	< 1.0
	Dec-98	< 2.0	53	2.9	< 2.0
	Dec-99	< 1.0	22	< 1.0	< 1.0
	Oct-00	< 1.0	23	2.5	< 1.0
Duplicate	Oct-00	< 1.0	28	3.0	< 1.0
	Nov-01	< 1.0	2.2	< 1.0	< 1.0
	Dec-02	< 1.0	32.0	1.9	< 1.0
SC-10S	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-98	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-99	< 1.0	< 1.0	< 1.0	< 1.0
SC-14S	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9
	Dec-96	< 1.0	< 1.0	< 1.0	< 1.0
	Dec-97	< 1.0	< 1.0	< 1.0	< 1.0
Duplicate	Dec-97	< 1.0	< 1.0	1.0	< 1.0

All constituents reported in micrograms per liter (µg/L).

Shaded areas represent concentration exceeded remedial goal.

* -- Indicates recovery well previously shut down after reaching cleanup goals.

J = J-Flagged or Estimated Value.

J+ = J-Flagged or Estimated Value with a potentially high bias.

Summary of VOC Data for Constituents of Concern at OU2, Harris Corporation, Palm Bay, Florida

Well	Date	Tetrachloroethene (Goal = 3 µg/L)	Trichloroethene (Goal = 3 µg/L)	cis-1,2-Dichloroethene (Goal = 70 µg/L)	Vinyl Chloride (Goal = 1 µg/L)
Intermediate Wells					
	Dec 98	< 1 0	< 1 0	< 1 0	< 1 0
	Nov-01	< 1 0	< 1 0	1 9	< 1 0
	Dec-02	< 1 0	1 4	2 8	< 1 0
SC 16S	Nov-95	< 0 66	< 0 92	< 0 82	< 0 9
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 97	1 5	**24**	13 0	< 1 0
	Dec-98	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-99	**4.8**	**70**	8 1	< 1 0
	Oct-00	< 1 0	1 9	< 1 0	< 1 0
	Nov-01	< 1 0	2 7	2 4	< 1 0
	Nov-02	< 1 0	**82.0**	1 6	< 1 0
SC 19S	Nov-95	**4.4**	**270**	**86**	**37**
	Dec-96	**5 6**	**280**	**110**	**27**
	Dec-97	**4 1**	**170**	57	< 1 0
	Dec-98	**6 3**	**160**	46	**21**
	Dec-99	**3.6**	**100**	21	< 1 0
	Aug-00	**4.0**	**120**	68	**69**
	Oct 00	2 8	**65**	35	**46**
	Jan-01	**6.0**	**110**	38	**45**
	Oct 01	**3.8**	**77**	28	**24**
	Nov-02	< 1 0	< 1 0	5	**39**
SC-20S	Nov-95	< 0 66	< 0 92	1 6	< 0 9
Duplicate	Nov-95	< 0 66	< 0 92	1 3	< 0 9
	Dec 98	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-99	< 1 0	1 1	1 8	< 1 0
	Oct 00	< 1 0	1 8	4 0	< 1 0
SC-21S	Nov-95	< 0 66	< 0 92	< 0 82	< 0 9
	Dec-96	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 98	< 1 0	< 1 0	< 1 0	< 1 0
	Aug-00	< 1 0	**6.2**	< 1 0	< 1 0
	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0
	Nov 01	1 5	< 1 0	< 1 0	< 1 0
	Dec-02	< 1 0	< 1 0	< 1 0	< 1 0
SC-23S	Dec-97	< 1 0	< 1 0	< 1 0	< 1 0
	Dec 98	< 1 0	< 1 0	< 1 0	< 1 0
	Dec-99	< 1 0	< 1 0	< 1 0	< 1 0
	Oct-00	< 1 0	< 1 0	< 1 0	< 1 0
	Nov 01	2 5	< 1 0	< 1 0	< 1 0
	Dec 02	< 1 0	< 1 0	< 1 0	< 1 0

All constituents reported in micrograms per liter (µg/L)

Shaded areas represent concentration exceeded remedial goal

* Indicates recovery well previously shut down after reaching cleanup goals

J = J Flagged or Estimated Value

J+ = J Flagged or Estimated Value with a potentially high bias

Summary of VOC Data for Constituents of Concern at OU2, Harris Corporation, Palm Bay, Florida.

Well	Date	Tetrachloroethene (Goal = 3 µg/L)	Trichloroethene (Goal = 3 µg/L)	*cis*-1,2-Dichloroethene (Goal = 70 µg/L)	Vinyl Chloride (Goal = 1 µg/L)
Deep Wells					
SC-7D	Dec-97	< 1.0	< 1.0	< 1.0	< 1 0
	Oct-00	< 1.0	< 1.0	< 1.0	< 1 0
	Nov-01		< 1 0	< 1.0	< 1.0
	Dec-02	< 1.0	< 1.0	< 1.0	< 1 0
SC-8D	Oct-00	< 1.0	< 1.0	< 1.0	< 1.0
SC-16D	Nov-95	< 0.66	< 0.92	< 0.82	< 0.9

All constituents reported in micrograms per liter (µg/L).

Shaded areas represent concentration exceeded remedial goal.

* -- Indicates recovery well previously shut down after reaching cleanup goals.

J = J-Flagged or Estimated Value.

J+ = J-Flagged or Estimated Value with a potentially high bias.

Summary of 2002 Groundwater Sampling Data for Constituents of Concern at the PBUC Production Wells Harris Corporation, Palm Bay FL

Well	Date	12DCB (Goal = 10 ppb)	11DCE (Goal = 7 ppb)	C12DCE (Goal = 70 ppb)	EB (Goal = 15 ppb)	MC (Goal = 5 ppb)	PCE (Goal = 3 ppb)	TCE (Goal = 3 ppb)	VC (Goal = 1 ppb)
PBUC 3	01/08/02	2 40	0 76	3 50	BDL	BDL	BDL	BDL	4 40
	02/14/02	2 20	0 74	2 90	BDL	BDL	BDL	BDL	4 50
	03/07/02	NA	NA	NA	NA	NA	NA	NA	NA
	04/11/02	NA	NA	NA	NA	NA	NA	NA	NA
	05/09/02	NA	NA	NA	NA	NA	NA	NA	NA
	06/06/02	1 60	0 62	2 70	BDL	BDL	BDL	0 34	4 40
	07/11/02	1 80	0 67	2 70	BDL	BDL	BDL	0 33	4 30
	08/08/02	1 40	0 52	2 60	BDL	BDL	BDL	0 30	3 90
	09/05/02	1 30	0 54	2 40	BDL	BDL	BDL	0 41	2 70
	10/10/02	1 50	0 62	3 10	BDL	BDL	BDL	0 37	3 40
	11/07/02	1 20	0 55	3 00	BDL	BDL	BDL	0 27	3 20
	12/05/02	1 30	0 51	2 90	BDL	BDL	BDL	BDL	4 30
PBUC 5	01/08/02	4 70	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	02/14/02	4 20	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	03/07/02	5 60	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	04/11/02	4 30	BDL	0 45	BDL	BDL	BDL	BDL	BDL
	05/09/02	4 60	BDL	0 57	BDL	BDL	BDL	BDL	BDL
	06/06/02	4 30	BDL	0 52	BDL	BDL	BDL	BDL	BDL
	07/11/02	4 60	BDL	0 51	BDL	BDL	BDL	BDL	BDL
	08/08/02	4 60	BDL	0 45	BDL	BDL	BDL	BDL	BDL
	09/05/02	4 50	BDL	0 43	BDL	BDL	BDL	BDL	BDL
	10/10/02	3 90	BDL	0 47	BDL	BDL	BDL	BDL	BDL
	11/07/02	4 10	BDL	0 41	BDL	BDL	BDL	BDL	BDL
	12/05/02	4 60	BDL	0 31	BDL	BDL	BDL	BDL	BDL

All constituents reported in micrograms per liter (µg/L parts per billion)

Shaded areas represent concentration exceeded remedial goal

12DCB = 1 2 Dichlorobenzene/11DCE = 1 1 Dichloroethene/C12DCE = cis 1 2 Dichloroethene/

EB = Ethyl benzene/MC = Methylene Chloride/PCE = Tetrachloroethene/TCE = Trichloroethene/VC – Vinyl chloride

NA = Not Available

Summary of 2002 Groundwater Sampling Data for Constituents of Concern at the PBUC Production Wells, Harris Corporation, Palm Bay, FL

Well	Date	12DCB (Goal = 10 ppb)	11DCE (Goal = 7 ppb)	C12DCE (Goal = 70 ppb)	EB (Goal = 15 ppb)	MC (Goal = 5 ppb)	PCE (Goal = 3 ppb)	TCE (Goal = 3 ppb)	VC (Goal = 1 ppb)
PBUC-8	01/08/02	7 30	BDL	1 30	BDL	BDL	BDL	BDL	1.10
	02/14/02	6 50	BDL	1 00	BDL	BDL	BDL	BDL	BDL
	03/07/02	8 10	BDL	1 40	BDL	BDL	BDL	BDL	1.50
	04/11/02	6 70	BDL	1 20	BDL	BDL	BDL	BDL	0 89
	05/09/02	6 40	BDL	1 40	BDL	BDL	BDL	BDL	1.60
	06/06/02	6 00	BDL	1 20	BDL	BDL	BDL	BDL	1.50
	07/11/02	7 40	BDL	1 30	BDL	BDL	BDL	BDL	1.40
	08/08/02	6 70	BDL	0 96	BDL	BDL	BDL	BDL	0 96
	09/05/02	7 20	BDL	0 98	BDL	BDL	BDL	BDL	0 89
	10/10/02	7 90	BDL	1 20	BDL	BDL	BDL	BDL	1.30
	11/07/02	6 90	BDL	1 10	BDL	BDL	BDL	BDL	1.20
	12/05/02	7 90	BDL	1 10	BDL	BDL	BDL	BDL	1.60
PBUC-17	01/08/02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	02/14/02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	03/07/02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	04/11/02	BDL	BDL	0 36	BDL	BDL	BDL	BDL	BDL
	05/09/02	BDL	BDL	0 81	BDL	BDL	BDL	BDL	BDL
	06/06/02	BDL	BDL	0 40	BDL	BDL	BDL	BDL	BDL
	07/11/02	BDL	BDL	0 44	BDL	BDL	BDL	BDL	BDL
	08/08/02	BDL	BDL	0 33	BDL	BDL	BDL	BDL	BDL
	09/05/02	BDL	BDL	0 34	BDL	BDL	BDL	BDL	BDL
	10/10/02	BDL	BDL	0 40	BDL	BDL	BDL	BDL	BDL
	11/07/02	BDL	BDL	0 33	BDL	BDL	BDL	BDL	BDL
	12/05/02	BDL	BDL	0 27	BDL	BDL	BDL	BDL	BDL

All constituents reported in micrograms per liter (µg/L parts per billion)

Shaded areas represent concentration exceeded remedial goal

12DCB = 1 2 Dichlorobenzene/11DCE = 1 1 Dichloroethene/C12DCE = cis-1 2 Dichloroethene/

EB = Ethyl benzene/MC = Methylene Chloride/PCE = Tetrachloroethene/TCE = Trichloroethene/VC = Vinyl chloride

NA = Not Available

PALM BAY UTILITY CORPORATION/ HARRIS CORPORATION WATER AND WASTEWATER AGREEMENT

THIS AGREEMENT is made and entered into this 21st day of April 1994, by and between PALM BAY UTILITY CORPORATION, a Florida not-for-profit corporation (hereafter "UTILITY"), and HARRIS CORPORATION, a Delaware corporation authorized to do business under the laws of the State of Florida (hereafter "HARRIS").

RECITALS

1. The UTILITY has responsibility to investigate, plan and provide water and wastewater service within the boundaries of the City of Palm Bay, Florida, and its service area.

2. The UTILITY provides water and wastewater service to its members pursuant to and subject to its Tariff (as defined below) and Service Availability Policy.

3. The UTILITY is desirous of insuring that long term, reliable, cost effective water and wastewater service is provided to its members.

4. While HARRIS owns and operates an industrial water and wastewater system on its site, HARRIS is also an industrial customer of the UTILITY, and desires to have an agreement for purchasing a reliable, cost effective and practical supply of water and wastewater services.

5. The UTILITY's Tariff authorizes it to enter into certain agreements with users consuming more than 250,000 gallons per day, annual average basis.

6. The parties acknowledge that they have all right, power and authority to enter into this Agreement.

ACCORDINGLY, in consideration of the Recitals and benefits to be derived from the mutual observation of the covenants contained herein, and other good and valuable consideration the receipt and sufficiency of which are hereby acknowledged by the parties, the parties agree as follows:

SECTION 1. RECITALS. The above Recitals are true and correct and form a material part of this Agreement.

SECTION 2. DEFINITIONS. The parties agree that in construing this Agreement, the following words, phrases, and terms shall have the meanings specified below:

2.1. "Agreement" means this Palm Bay Utility Corporation/Harris Corporation Bulk Water and Wastewater Service Agreement, as it may from time to time be modified.

2.2. "GPD" means gallons per day.

2.3. "HARRIS" means Harris Corporation, its successors and assigns.

2.4. "Rates" means all those rates, fees and charges established by the UTILITY from time to time.

2.5. "Tariff" means the Palm Bay Utility Corporation Water and Wastewater System Tariff as in effect and modified from time to time by the UTILITY.

2.6. "UTILITY" means Palm Bay Utility Corporation, its successors and assigns.

2.7. "Wastewater Service" means the collection, transmission, treatment, and disposal of wastewater from customers in accordance with applicable laws and regulations. Wastewater Service is normally measured in gallons per day (GPD) or million gallons per day ("MGD").

2.8. "Water Service" means the pumping, treatment, transmission, and distribution of potable water to customers in accordance with applicable laws and regulations. Water Service is normally measured in GPD or MGD.

2.9. "System" means the water and wastewater system owned and operated by the UTILITY.

SECTION 3. ACCESS TO RATE SETTING PROCESS. As a member and customer of the UTILITY, HARRIS is entitled to actual notice of any meeting of the UTILITY in which consideration will be given to the setting or adjusting of rates to be charged by the UTILITY. Because of the size of HARRIS as a customer and its consumption and capacity requirements, HARRIS shall, in addition to the notice and information to which HARRIS is entitled under Article V, Section 4 of the Bylaws of the UTILITY, and notwithstanding any future change in the Bylaws of the UTILITY, be entitled to receive written notice in the manner provided in Section 9 hereof, no later than thirty (30) days after the initiation of a cost of service study directly related to the consideration of any such rate setting or adjustment. Further, Harris shall also be entitled to receive written notice in the manner provided in Section 9 hereof, of any proposed recommendations of rate setting or adjustment by the UTILITY at least thirty (30) days prior to any such consideration of such rate setting or adjustment. Harris shall also be entitled in like manner

to written notice from the City of Palm Bay at least ten (10) days prior to any final ordinance hearing considering proposed rate settings or adjustments recommended by the UTILITY to the City Council. Upon request, the UTILITY shall provide to HARRIS the opportunity to copy financial and operating data and documents related to the establishment or modification of rates. Notwithstanding anything to the contrary, however, HARRIS shall not be entitled to receive any confidential or privileged information, nor shall the UTILITY be entitled to receive any confidential or privileged information from HARRIS. Furthermore, as a member and customer of the UTILITY, HARRIS shall have the right to appear before or have a representative in attendance at any meetings of the Board of Directors of the UTILITY in which consideration is given to setting, adjusting or modifying the rates of the UTILITY. HARRIS shall also have the right to make written or oral comments, or object to any rates proposed to the Board of Directors, by virtue of those rates being unjust, unfair, unreasonable or inequitable with respect to HARRIS. Finally, HARRIS shall have the right to object to any rates proposed to the Palm Bay City Council by action of the Board of Directors by virtue of those rates being unjust, unfair, unreasonable or inequitable, and HARRIS shall have the right to appeal any such determination of the City Council to the Circuit Court of the 18th Judicial Circuit, in and for Brevard County, in a manner provided by the laws of the State of Florida and the rules of civil procedure promulgated by the Florida Supreme Court.

SECTION 4. SERVICE STANDARDS. The UTILITY agrees to comply with all local, state, regional, and federal statutes, requirements, permits, orders, and rules applicable to the provision of Water Service and Wastewater Service to the public, and shall fulfill a duty of reasonable care in its delivery of said services to HARRIS.

SECTION 5. GROUNDWATER REMEDIATION. HARRIS agrees to continue its groundwater remedial activities, in accord with the provisions of its Consent Decrees, and agreements with the Florida and Federal governments. The UTILITY agrees to provide HARRIS with advance written notification of any plan to shut down any withdrawal wells supplying water to the UTILITY's air stripping unit, or any material changes in the normal withdrawal regime for the wellfield as a whole. HARRIS has previously constructed certain facilities, including air stripper units, to help remediate a groundwater problem. HARRIS hereby agrees to the conveyance and dedication to the UTILITY at no cost of all existing facilities paid for by HARRIS that are located at the water treatment plant currently owned by the UTILITY, which facilities are more specifically identified in Exhibit "A" hereto. HARRIS further agrees to reimburse the UTILITY for the reasonable and necessary costs of operating the air stripping facilities and any other remediation facilities required to protect the public health, safety, and welfare or to comply with applicable federal, state, and local laws, rules, and requirements where the groundwater problem for which the additional remediation facilities are to be employed is attributable to HARRIS' activities. HARRIS may review and comment upon any additional remediation facilities hereafter proposed by the UTILITY to be added in order to provide Water Service in accordance with applicable governmental requirements. In connection with the foregoing, HARRIS shall provide to the UTILITY, upon request, copies of any and all correspondence and related documentation

to any and all Federal, and State agencies. With respect to the UTILITY's remediation activities, on an annual basis in May of each year, the UTILITY shall provide HARRIS with a "not to exceed budget" for operating expenses applicable to remediation activities planned for the next Harris fiscal year. The UTILITY shall provide HARRIS with copies of sampling data from the individual withdrawal wells and combined influent and effluent sampled in conjunction with operation of the air stripping unit within 10 calendar days of its receipt of the sampling data.

SECTION 6. APPLICATION OF UTILITY RULES AND REGULATIONS. In receiving Water Service and Wastewater Service from the UTILITY, HARRIS agrees that it is subject to the provisions of the Palm Bay Utility Corporation Water and Wastewater System Tariff, the UTILITY'S service availability policy, the CITY's Industrial Pre-treatment Code, set forth in Article V, Chapter 24, of the Code of the City of Palm Bay, Florida, and other rules and regulations of the UTILITY as adopted from time to time. Notwithstanding anything to the contrary set forth herein, nothing set forth in this section shall be construed as modifying the provisions of Section 3 of this agreement.

SECTION 7. DISCLAIMER OF THIRD PARTY BENEFICIARIES. Notwithstanding the joinder and consent by the City of Palm Bay this Agreement is solely for the benefit of the Utility and Harris and no right or cause of action shall accrue upon or by reason hereof, to or for the benefit of any third party not a formal party hereto, except for bondholders of or providers of credit enhancement to either party and as to those parties only as and to the extent provided in the legal instruments establishing their rights respecting the SYSTEM or the UTILITY.

SECTION 8. ASSIGNMENT. This Agreement shall be binding on the parties hereto and their respective successors and assigns, however neither party may assign or transfer this agreement without the prior written consent of the other party, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, this Agreement may be assigned to the City of Palm Bay without the prior written consent of Harris Corporation. However, Harris shall be entitled to receive written notice in the manner provided in Section 9 hereof, no later than thirty (30) days after such assignment has been duly executed by Palm Bay Utility Corporation and the City of Palm Bay.

SECTION 9. NOTICES. Any notice required or allowed to be delivered hereunder shall be in writing and be deemed to be delivered when either (1) hand delivered to the official hereinafter designated, or (2) upon receipt of such notice when deposited in the United States mail, postage prepaid, certified mail, return receipt requested, addressed to a party at the address set forth opposite the party's name below, or at such other address as the party shall have specified by written notice to the other party delivered in accordance herewith:

HARRIS:	Robert R. Sands Director of Environmental Programs HARRIS CORP. 1025 W. NASA Boulevard Melbourne, FL 32919
with a copy to:	Priscilla E. Rosenberg, Esquire HARRIS CORP. 1025 W. NASA Boulevard Melbourne, FL 32919
UTILITY:	PALM BAY UTILITY CORPORATION 1105 Troutman Blvd., N.E. Palm Bay, Florida 32905
with a copy to:	Thomas A. Cloud, Esquire GRAY, HARRIS, ROBINSON, KIRCHENBAUM & PEEPLES, P.A. 201 East Pine Street Post Office Box 3068 Orlando, Florida 32802-3068

SECTION 10. SEVERABILITY. If any part of this Agreement is found invalid or unenforceable by any court, such invalidity or unenforceability shall not affect the other parts of the Agreement if the rights and obligations of the parties contained herein are not materially prejudiced and if the intentions of the parties can continue to be substantially effectuated. To that end, this Agreement is declared severable.

SECTION 11. RECORDATION. The parties hereto agree that an executed copy of this Agreement and Exhibits attached hereto shall be recorded in the Public Records of Brevard County, Florida, at HARRIS' expense.

SECTION 12. TIME OF THE ESSENCE. Time is hereby declared of the essence to the lawful performance of the duties and obligations contained in this Agreement.

SECTION 13. APPLICABLE LAW. This Agreement and the provisions contained herein shall be construed, enforced, and interpreted according to the laws of the State of Florida.

SECTION 14. EFFECTIVE DATE; TERM. This Agreement shall be effective when executed by both parties hereto and shall continue in full force and effect for a period of ten (10) years, and thereafter shall be automatically extended for succeeding periods of ten (10) years each, unless either of the parties elect to terminate this Agreement by written

notice to the other party at least two years prior to the end of any of the above referenced ten-year periods.

SECTION 15. ENTIRE AGREEMENT. This instrument constitutes the entire Agreement between the parties and supersedes all previous discussions, understandings, and agreements between the parties relating to the subject matter of this Agreement.

SECTION 16. AMENDMENTS. No amendments to or waivers of the provisions hereof shall be effective unless in writing and executed and delivered by the parties or, in the case of a waiver, by the party against which it operates.

SECTION 17. FORCE MAJEURE. The parties agree that a temporary interruption or cessation of Water Service or Wastewater Service that results from an act of God, hurricane, lightning, fire, strike, casualty, insurrection, or riot shall not constitute a default in this Agreement on the part of either party, and neither shall be liable to the other for any damage resulting from such cessation or interruption; and unless written notice to the contrary is received from any federal, state, or regional agency, or any court having jurisdiction over the subject matter, notwithstanding such event or circumstance, the UTILITY shall, so far as practicable, continue to provide Water Service and to accept and dispose of wastewater transmitted to it, if possible, regardless of the degree of treatment available.

IN WITNESS WHEREOF, the Parties hereto have hereunder executed this Agreement on the date and year first above written.

Signed, sealed and delivered
in the presence of:

(x) _____

Name: Robert J. Bolton

(x) _____

Name: Richard L. Nipper

UTILITY:

PALM BAY UTILITY CORPORATION,
a Florida not-for-profit corporation

By: _____
John Hall, Chairman

Attest: _____

[Corporate Seal]

Signed, sealed and delivered
in the presence of:

(x) _____

Name: ROBERT R. SANDS

(x) _____

Name: PRISCILLA E. ROSENBERG

HARRIS:

HARRIS CORPORATION, a Delaware corporation

By: _____
Robert E. Sullivan, Senior
Vice President

[Corporate Seal]

STATE OF FLORIDA
COUNTY OF Brevard

The foregoing instrument was acknowledged before me this 28th day of April, 1994 by John Hall, the Chairman of PALM BAY UTILITY CORPORATION, on behalf of UTILITY. He is personally known to me or has produced personally known as identification and did (did not) take an oath.

_____
Signature of Person
Taking Acknowledgement

NOTARY PUBLIC STATE OF FLORIDA
MY COMMISSION EXP. JUL 6 '97
BONDED THRU GENERAL INS. U/W.

Valerie A. Sharpes
Name of Acknowledger
Typed, Printed or Stamped

Secretary
Title or Rank

CC278687
Serial Number, if any.

STATE OF FLORIDA
COUNTY OF Brevard

The foregoing instrument was acknowledged before me this 11th day of April, 1994 by Robert E. Sullivan, a Senior Vice President of the HARRIS CORPORATION, a corporation, on behalf of the corporation. He is personally known to me or has produced Personally Known as identification and did (did not) take an oath.

Margaret W. Tapscott
Signature of Person
Taking Acknowledgement

NOTARY PUBLIC, STATE OF FLORIDA.
MY COMMISSION EXPIRES: Sept. 17, 1995.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

Name of Acknowledger
Typed, Printed or Stamped

Title or Rank

133974
Serial Number, if any.

EXHIBIT A

- 1 each 16 FOOT AIR STRIPPING TOWER
- 1 each 5 HORSEPOWER FAN
- 1 each 5 HORSEPOWER PUMP
- 1 each 7.5 HORSEPOWER PUMP
- Associated tank, pipes, valves, controls, and appertenances

microbial insights

2340 Stock Creek Blvd
Rockford TN 37853-3044
Phone (865) 573-8188
Fax (865) 573-8133
Email microbe@microbe com

Microbial Analysis Report

Client: Johnathan T. Zientarski
L.S. Sims and Associates
1530 U.S. Highway 1
Rockledge, Fl 32955

Phone: 321-504-4046

Fax: 321-504-4035

MI Identifier: 1 LSA **Date Rec.:** 11-26-02 **Report Date:** 12-02-02

Analysis Requested: TGD: *Dehalococcoides ethenogenes*

Project: Harris MNA

Comments:

All samples within this data package were analyzed under U S EPA Good Laboratory Practice Standards Toxic Substances Control Act (40 CFR part 790) All samples were processed according to standard operating procedures Test results submitted *in this data package meet the quality assurance requirements established by Microbial Insights, Inc*

Reported by:

Susan D Reynolds
(Data Analyst)

Reviewed by:

(Director)

microbial insights

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Microbial Analysis Report

Executive Summary

The microbial communities from three samples were screened for the presence of *Dehalococcoides ethenogenes* by a targeted gene detection approach. Results from this analysis confirmed the presence of *Dehalococcoides ethenogenes* in samples collected from GS – 140S, GS – 50S, and GS 50D.

Overview of Targeted Gene Detection Approach

The recovery of DNA and its subsequent analysis provides a powerful tool for characterizing bacterial community structure. All cells (animals, plants, fungi, and bacteria) contain DNA that allows for their identification. These cells also contain ribosomes, which are required for normal cell functions. The favored target in DNA identification for bacteria is the small sub-unit ribosomal RNA gene, generally referred to as "16S rDNA" in prokaryotes). This target is favored because during the course of evolution, different regions of the ribosome have mutated (or changed) at different rates, with the overall result that some regions of this gene are virtually the same between all organisms (conserved), while other regions differ among even closely related species.

(*Variable and Conserved Regions*)

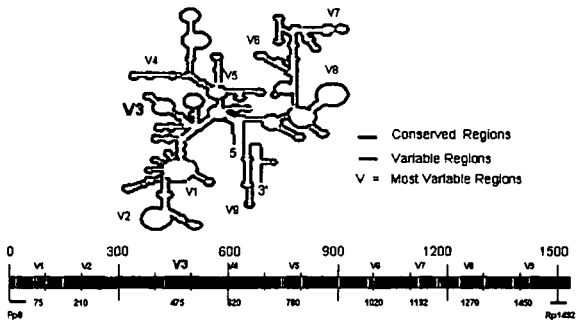

Figure 1. Diagramatic representation detailing the variable and conserved regions of the 16S rRNA gene. This figure was taken from ITRC Internet Training on Natural Attenuation of Chlorinated Solvents in Groundwater: Principles and Practices, Apr 00.

Specific primers directed to a variable region of the 16S rRNA gene of *Dehalococcoides ethenogenes* was used to determine its presence. Based upon Loffler et. al. the sensitivity of these primers is ~10^3 cells/mL or g of sample.

Table 1. Results from the DNA amplification using primers specific for *Dehalococcoides ethenogenes.* QA/QC samples are listed in blue Extraction blank was used to account for any contamination during the DNA extraction procedure. Two amplification samples were used to unsure a negative response for E-coli and a positive response for *D. ethenogenes.*

Sample	Presence of Dehalococcoides ethenogenes
GS – 140S	+++
GS – 50S	+++
GS – 50 D	+++
Extraction Blank	-
Negative Control: E-Coli	-
Positive Control: *Dehalococcoides ethenogenes*	+++

Quality Assurance Section

Sample Arrival and Holding Times:

Three samples were received on 11/26/02, accompanied by a chain of custody form. All arrival conditions and required holding times were acceptable according to SOP #SREC.

Sample Analysis and QA/QC Parameters:

Samples were analyzed under the U.S. EPA Good Laboratory Practice Standards: Toxic Substances Control Act (40 CFR part 790). All samples were processed according to standard operating procedures.

Notes: No QC or analytical problems were encountered

Calibrations and Solvent Checks:

All laboratory equipment and instruments utilized throughout the analyses were calibrated and operating within acceptable ranges. The instruments were calibrated according to Standard Operating Procedures (EQ4). All solvents used in these analyses were validated for purity.

Data Validation:

All data analyses were performed correctly. All calculations and transcriptions of raw and final data were verified.

MICROSEEPS

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1

Rockledge, FL 32955

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Laboratory Results

Lab Sample #	Client Sample ID
P0211571-01	GS-33S
P0211571-02	GS-140S
P0211571-03	GS-50D
P0211571-04	GS-50S
P0211571-05	GS-35D
P0211571-06	GS-131S
P0211571-07	GS-127D
P0211571-08	GS-44S
P0211571-09	GS-18S
P0211571-10	GS-124D

Approved By: Kathleen Hallo

NOTES:

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-01

Sample Description	Matrix	Sampled Date/Time	Received
GS-33S	Vapor	26 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	3.4	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-02

Sample Description	Matrix	Sampled Date/Time	Received
GS-140S	Vapor	25 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	3.3	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-03

Sample Description	Matrix	Sampled Date/Time	Received
GS-50D	Vapor	25 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	3.1	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-04

Sample Description	Matrix	Sampled Date/Time	Received
GS-50S	Vapor	25 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	3.3	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-05

Sample Description	Matrix	Sampled Date/Time	Received
GS-35D	Vapor	25 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	4.7	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-06

Sample Description	Matrix	Sampled Date/Time	Received
GS-131S	Vapor	25 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	3.6	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-07

Sample Description	Matrix	Sampled Date/Time	Received
GS-127D	Vapor	21 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	2.7	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-08

Sample Description	Matrix	Sampled Date/Time	Received
GS-44S	Vapor	21 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	3.9	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-09

Sample Description	Matrix	Sampled Date/Time	Received
GS-18S	Vapor	21 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	2.6	0.030	nM	AM20GAX	bc	12/9/02

Order #: P0211571
Report Date: 12/11/02
Client Proj Name: HAR2010
Client Proj #: HAR2010

Client Name: L. S. Sims & Associates, Inc.
Contact: Jonathan Zientarski
Address: 1530 U. S. Highway 1
Rockledge, FL 32955

Lab Sample #: P0211571-10

Sample Description	Matrix	Sampled Date/Time	Received
GS-124D	Vapor	21 Nov. 02	27 Nov. 02

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Vapor						
Hydrogen	3.6	0.030	nM	AM20GAX	bc	12/9/02

Validation

CHAIN - OF - CUSTODY RECORD

Phone: (412) 826-5245 — **Microseeps, Inc. - 220 William Pitt Way - Pittsburgh, PA 15238** — Fax No. : (412) 826-3433

Company : L.S. Sims + Associates
Co. Address : 1530 US Highway 1 Rockledge, FL 32955
Proj. Manager: Jonathan T. Zientarski
Proj. Location: Harris Palm Bay FL
Proj. Number: HAR2010
Phone # : 321 504-1046 **Fax # :** 321 504-4035

Sampler's signature :

Results to : L.S. Sims
Jonathan Zientarski

Invoice to : L.S. Sims
Linda Sims

Sample ID	Sample Description	Date	Time	Comp.	Grab	# Cont.	Parameters Requested: H_2	Remarks
GS-33S	GW	11-26-02	0934-0954	✓		1	✓	20 min at 200ml/min
GS-14OS		11-25-02	1500-1520	✓		1	✓	20 min at 200ml/min
GS-50D		11-25-02	1335-1355	✓		1	✓	20 min at 200ml/min
GS-50S		11-25-02	1230-1250	✓		1	✓	20 min at 200ml/min
GS-35D		11-25-02	1043-1103	✓		1	✓	20 min at 200ml/min
GS-131S		11-25-02	0855-0915	✓		1	✓	20 min at 200ml/min
GS-127D		11-21-02	1678-1638	✓		1	✓	10 min at 300ml/min
GS-44S		11-21-02	1419-1429	✓		1	✓	10 min at 300ml/min
GS-18S	"	11-21-02	1315-1325	✓		1	✓	10 min at 300ml/min
GS-124D	"	11-21-02	1125-1135	✓		1	✓	10 min at 300ml/min

Cooler ID	Cooler Temp.

Relinquished by :	Company :	Date .	Time :	Received by .	Company :	Date :	Time :
	L.S. Sims	11-26-02	1400				
Relinquished by :	Company :	Date .	Time :	Received by .	Company .	Date :	Time :
Relinquished by :	Company .	Date .	Time :	Received by :	Company :	Date :	Time :

WHITE COPY : Accompany Samples YELLOW COPY : Laboratory File PINK COPY . Submitter